

INTERSTATE MEDICAL JOURNAL.

VOL. X.

JUNE, 1903.

NO. 6.

ORIGINAL ARTICLES.

SIMPLICITY IN DEALING WITH ABSCESS OF THE APPENDIX.*

BY PAUL Y. TUPPER, M. D., of St. Louis, Missouri.

I submit a plea for extreme simplicity in the operative interference called for in appendicitis cases with abscess formation. That the subject is of vital importance needs no argument. So often has death followed operation in such cases that the laity hail with alarm the statement that pus is present or imminent in appendicitis cases. In a large majority of cases this, as far as the life and safety of the patient is concerned, should be rather encouraging than otherwise—the greatest danger being the prospect of a lingering convalescence, or probably ventral hernia. My personal observation leads me to believe that the danger of operative procedure is practically *nil* when the operator simply opens the abscess and secures free drainage. Most operators tell us that this is their custom, but in almost all cases something else is done, and it is this something—little though it apparently be—that carries with it a danger which so frequently compromises, if it does not sacrifice, the life of the patient. I hold that at the time of the operation the operator's full duty is done when the abscess cavity is opened, the opening sufficiently enlarged and a suitable drain introduced. The removal of the appendix is not only not indicated, but the slightest search for it is unwarrantable. Observation shows that when an abscess forms as the result of appendicitis, the appendix, in the large majority of cases, has sloughed off, or is so nearly destroyed that it ceases to act as a foreign body and is no longer a menace to the patient's future safety. Moreover, if the stump of an ulcerated appendix be found, it cannot, because of its condition, be properly removed. The best that can be done by the ever-zealous operator is to throw a ligature about it and cut it off, if the ligature itself does not do so when tightened. Because the ligation and section are made in tissues necessarily thickened, infiltrated and probably necrotic, no healthful repair can be expected. A fecal fistula, if not existing or imminent, is at least likely. A greater danger than this, however, is the likelihood that the gentlest manipulation made in handling or even searching for the diseased appendix, will disturb the protective adhesions and carry infection into uninfected areas. We have no means of determining by touch or otherwise when these adhesions are strong or weak. On occasions the abscess cavity has been ruthlessly explored and possibly the stump of an appendix delivered from its depths and removed by ligation or cautery, or maybe pulled off, and no new infection has ensued, still this step cannot be taken in any degree without grave danger to the patient. I have seen abscesses opened into and then adhesions deliberately broken up in searching for the ap-

* Read before Missouri State Medical Association, April 22, 1903.

pendix, as if nature is apt to shut off from the cavity and hide in a mass of adhesions the foreign body causing the destructive act. The diseased appendix may be incorporated in the walls of the abscess cavity and for all we know forms in part a barrier shutting off and conserving the safety of the general peritoneal space.

Moreover, the cavity should not be irrigated or mopped out. Greig Smith aptly says: "To wash out septic contents is not purifying an abscess, the micro-organisms still remain in the abscess wall. . . . It must be admitted that we cannot render aseptic the putrid appendicular abscess; that it must be drained; and that nature properly assisted will provide the cure. It is a waste of time and a risk to wash out the abscess and attempt the purification of its walls. If efficient drainage is made, all is done that need be done."

My method of operation is the simplest possible. The abscess cavity is entered in the most direct way, the greatest care being taken, of course, to avoid the peritoneal cavity. As soon as the abscess is located and opened, the finger is cautiously introduced into its cavity and its general dimensions and direction noted. With the finger still in place the opening is extended the full length of the abscess cavity, if possible. Then, without washing or wiping out the cavity, or without once withdrawing the finger, a strip of gauze of sufficient length for drainage—not packing—is carried with a pair of forceps along the finger to the bottom of the cavity. If distinct cavities are found in more directions than one they are similarly drained. The ends of the gauze are left hanging from the wound, and a moist dressing, under rubber protective, is applied. Until the gauze loosens itself I rarely remove it, satisfying myself with simply changing the outer dressings as they become soiled. When the drain becomes loose, I remove it, reapplying another. The cavity is not washed out for several days, and then only with the greatest care, using sterile water and a large soft catheter for the purpose. Later, when sure that the cavity is well walled off, I may use peroxide of hydrogen, etc., for irrigation. From this simple procedure, which I have practically always adhered to, I have yet to see a patient derive other than comfort or fail to convalesce satisfactorily. I do not search for the appendix, nor do I interest myself in its whereabouts. As yet I have never had to operate the second time for the removal of an appendix or its stump.

Have we not all seen cases like this—a patient with a characteristic history of suppurative appendicitis, localized, the mass has formed, the temperature receded to about 100°, and no special discomfort is experienced. A section is made, an abscess cavity opened, more or less of a search is made for the appendix, possibly the cavity is irrigated or mopped out and drained. The patient comes from under the anesthetic in pain, is far less comfortable than before the operation, and soon every evidence of acute peritonitis is apparent. The usual outcome of a condition like this is too well known. My conviction is that such calamities can be averted by simplifying as I have indicated, our operative technic in cases of walled-off appendicular abscesses.

ETIOLOGY AND PATHOLOGY OF PUERPERAL ECLAMPSIA.

BY MAX W. MYER, M. D., of Columbia, Missouri,

PROFESSOR OF GYNECOLOGY AND OBSTETRICS IN THE MISSOURI STATE UNIVERSITY.

The etiology of eclampsia is a subject which is now receiving the universal attention of those interested in obstetrics. Experimental investigations together with clinical observations are being conducted on every hand in an effort to solve the problem which has long been a source of the greatest annoyance to the obstetrician. Up to the present time it has baffled the most careful investigation, and in spite of the many theories that have been propounded on the subject, we are probably as far from an exact solution today as we have been at any time. Notwithstanding the present unsettled, I may say chaotic, state of the literature on the subject, a general review will not be without interest. Through comparison and exclusion, we may be enabled to approach, at least, a rational view.

Much has been accomplished during recent years with reference to the pathology of this affection, and though this is by no means on a firm footing, the investigations along these lines have thrown much light on the true nature of the phenomenon. The study of the pathology has already enabled us to discard some of the older theories which had become thoroughly implanted and were accepted by many as the logical explanation of eclampsia.

We must understand by eclampsia a disease occurring during the period of gestation, with clearly defined and characteristic symptoms. There is doubt now only in the minds of a few that eclampsia is a disease *per se* and not merely a symptom, as was previously supposed.

It is only natural that the early observers should have attempted to define and locate the trouble according to its characteristic symptoms. In 1843 Levers found that the urine of eclamptic patients constantly contained albumen. This led to the application of Fredrick's theory of uremia in eclampsia; namely, that it was due to a diseased condition of the kidneys which resulted in an intoxication of the blood through the retention of urea and ammonium carbonate. Uremia and eclampsia were at once placed in the same category, the latter name being applied to uremia when met with in pregnant women. This view is no longer tenable, for neither urea nor ammonium carbonate is found in the blood of eclamptics. Braun and Spiegelberg (18), however, report four exceptions to this rule. Experiments have shown, too, that these chemicals do not cause convulsions, except when introduced into the blood in large quantities. Again, eclampsia often exists when neither the chemical nor the pathological findings indicate any involvement of the kidneys. The number of cases in which we fail to find albuminuria varies, according to different clinicians, from eight to sixteen per cent. This would represent far too great a discrepancy, if we were to accept the kidney as the prime factor in the etiology of this condition. Autopsies likewise verify this statement, for there are a great many cases reported from reliable sources in which the kidneys reveal nothing. Ingerslev, for instance, collected one hundred and six such cases. Furthermore, if this were the true explanation, we might expect a predisposition to eclampsia on the part of all pregnant women who have previously suffered from nephritis. This again is not the case, for uremic individuals seem in a measure immune from eclampsia.

Traube (19) did not accept the theory of toxemia of renal origin in uremia, but ascribed it to the protracted loss of albumen through the urine. This resulted in an hydremic condition of the blood, along with an hypertrophy of the left heart. These factors caused an increase in the blood pressure in the arteries, the result of which was an edema. Secondary to the edema there developed cerebral anemia, and from this there resulted coma and convulsions. Rosenheim applied this theory to eclampsia. According to him, there exists in pregnancy hydremia, hypertrophy of the heart, and increased arterial pressure during the labor pains. This view cannot be accepted. It has assumed entirely too much as proven. We are not willing to admit the presence of pronounced hydremia in pregnancy, and surely not that an edema of the brain need necessarily cause anemia. That an acute anemia may be the direct cause of the convulsions may be conceded, but, if such is the case, it is nothing more than a transitory anemia, due to vasomotor action. Post-mortem examinations have shown hyperemia of the brain in these cases, equally as often as anemia. Examinations of the urine and blood have added little to our knowledge of this subject. If there is a toxemia at all, it is of such a sort that our present methods of investigation have failed to recognize it.

Bouchard (10) and recent investigators, foremost among whom may be mentioned Ludwig and Savor (17), regard eclampsia as an autointoxication, due to the retention of toxic material in the blood. They claim to have found a toxine in normal urine, which is decidedly decreased during eclamptic attacks. Furthermore, they were able to detect this toxic material in the blood serum of the pregnant woman, and in a greatly increased quantity during eclampsia. The results obtained by these observers have not been corroborated by recent investigators. Volhard was the first to attack the accuracy of their findings; since this time they have been attacked by so many careful observers that we seem justified in concluding that there was something faulty in their method of procedure.

Schumacher (22) has recently published an interesting piece of work, in which he verifies the results obtained by Volhard. He demonstrated that many points must be considered before one is justified in drawing conclusions from experimental work. This Bouchard and his followers failed to do. For example, in order to determine the toxicity of a fluid it is necessary to determine its temperature, the amount of pressure used in injecting, the chemical reaction, the specific gravity, and, chief of all, the condition of the animal employed. Schumacher lays great stress upon the specific gravity of the fluid. He found that of urine with a specific gravity between 1006-1012, 45.6 ccm. could be injected for each kilogram of body weight, with a specific gravity between 1012 and 1018 only 25.7 ccm., and between 1018 and 1024, 22.5 ccm. was the toxic dose. This was true regardless of the source of the urine; whether from a normal individual, a pregnant woman, or even from an eclamptic. The normal blood serum and that of the eclamptic showed no appreciable difference as to toxicity. These results have been verified by many investigators.

Halbertsma (15) in 1884, believing that the urinary tract was the source of the evil in eclampsia, and concluded it was due to a compression and dilatation of the ureters. Great stress cannot be given to this view, for the same condition is found in large ovarian tumors, and in labor when the head has not yet entered the pelvic inlet; yet convulsions do not occur here. Kundurat (18) has also

advanced a theory based upon compression of the ureters. He attributes the same to a high division of the aorta, and the peculiar anatomical position of the ureters at the pelvic inlet, caused by such a division. Herzfeld (11) has recently attempted to uphold this view, while Strassman (14), after a long series of observations, opposes it.

Strumpf (16), having found acetone in the urine of eclamptic cases, was inclined to regard this as an important factor. Acetone is one of the end-products of nitrogenous metabolism and is often found in cases in which these are rapidly consumed, as in fevers.

During recent years the liver has come in for its share of the blame in eclampsia. The probabilities are, however, that the same mistake is made here as in the case of the kidneys—too much stress is laid upon symptomatology. Pinard, Budin and other French authorities have promulgated this view. They believe that the metabolic function of the order is disturbed through some pathological lesion, so that it permits substances taken up from the intestinal tract, or from other sources in the organism, to pass through it without undergoing the metabolic changes necessary to render them harmless. The supporters of this theory consider the frequent existence of icterus in eclampsia as significant.

Schmorl (9), in his report of seventy-three cases, found the following pathological changes in the parenchymatous organs: The kidneys, in all of the cases except one, showed degenerative changes (cloudy swelling and fatty degeneration) of the functioning epithelium. An occasional case showed necrosis of the epithelium. Thrombosis was often met with in the glomeruli and small veins and arteries of the kidneys. In seventy-one cases the liver showed similar changes, in addition to hemorrhagic and anemic infarcts. The cases in which infarcts were not present had fresh thrombi in the portal vessels. The extent of the changes in the liver did not go hand in hand with the frequency of the convulsions. In ten cases icterus was present. These observations would indicate that the changes in the liver are not more pronounced than in other parenchymatous organs, and are not as constant even as are the lesions in the kidneys. In the face of these facts, we are scarcely justified in considering the liver an etiological factor.

The observations of Schmorl would indicate that there is in the blood of eclamptics something which increases its power of coagulation. The thrombi found in all parts of the body point to this. Schmorl was at first inclined to explain this thrombosis by the presence in the circulation of syncytial cells, but further investigation revealed their presence also under normal conditions.

Volhard claims to have found a substance in the urine of eclamptics which promotes coagulation; while Kollman states that the blood has a higher fibrin per cent. in these cases.

The convulsions and coma which are always present in eclampsia have naturally led observers to turn their attention to the nervous system as the possible origin of the attacks. Anemia of the brain seemed to these to be the most logical explanation. Kussmaul showed experimentally that cutting off the internal blood supply to the brain always results in convulsions. The report of Schmorl, however, did not show anemia to be a constant factor. In sixty-five cases, forty-eight showed hemorrhage and softening. These lesions in the brain were, however, very small, not larger than a pea, and usually occupying the cortex. These were explained by the presence of thrombi in the smaller vessels, a con-

dition which was also found in other organs. In some cases this was doubtless caused by an increased pressure during the labor pains. At present we have no reason to accept the view that a functional disturbance in the brain should cause the anemia.

The question of an increased excitability of the nerve centers has recently met with some consideration. That this exists but few doubt, but it cannot be regarded as an exciting cause. Blumreich and Zunzt (4) have conducted some very interesting experiments along this line. They have shown that the motor centers, during pregnancy, really are in a state of increased excitability toward stimuli. Rabbits were trephined and kreatin was applied directly to the motor area. It was found that a much smaller quantity was necessary to produce convulsions in the pregnant rabbit than in the non-pregnant animal. Blumreich (5) has recently attempted to prove that the nerve centers of a pregnant rabbit react to toxins (due to urine retention) much earlier than do those of the non-pregnant. It is a well-known fact that in the treatment of eclamptics all operative procedures must be carried out under anesthesia, for the slightest external stimulation tends to produce convulsions. Even loud noises have been known to provoke the attack. Taking all of these points into consideration, one must consider the excitability of the nervous centers as a factor in the production of eclampsia. We cannot accept it, however, as the prime factor; it is, in all probability, secondary to some other cause.

The great similarity between the convulsions and coma of eclampsia and epilepsy has prompted neurologists to consider them in the same category. Nothnagel (19) regarded the irritability of the vaso-motor and motor centers as the primary factor in both, being in eclampsia an acute, transitory form, while in epilepsy it is chronic. Were this true we would expect all epileptics to have a certain predisposition to eclampsia. The contrary is true, however; they seem to possess a form of immunity. Glockner (12), however, recently reported five cases in which he claimed to find an existing relation between the two conditions. Though the clinical picture of these conditions are very similar, the differential diagnosis is comparatively simple. In the one case we are dealing with a condition which occurs only during gestation, appearing suddenly, and, unless fatal, rapidly disappears; while in the other we have a chronic condition, appearing at any time of life. The urine, too, aids materially in the differential diagnosis.

Ahlfeld (1) considered the placenta the source from which a toxin, formed through the fetal metabolism, and in the sinuses of the placenta, pass into the maternal circulation. Czempin (13) has recently come forth with a theory, claiming that the metabolic products from the fetus pass into the placenta, a part of it being rendered harmless here is permitted to pass into the maternal circulation, while the remainder is stored up in the placenta. Should some pathological condition exist which prevents the placenta absorbing the toxin, it enters the maternal circulation unchanged, and produces eclampsia. No pathological lesion has been found, which might be considered pathognomonic of eclampsia. The hemorrhages into the placental tissue and the white infarcts which have often been reported, are very likely the results of nephritis and endometritis.

Schmorl (12) found in his post-mortems on eclamptic cases that syncytial cells were found in all organs of the body and was ready to make this the etiological factor. His theory was so framed that even those cases where the con-

vulsions did not occur until after labor, could be explained by the retention of a cotyledon of the placenta. Many recent investigators, Veit (22), Poter (8), and others have found in normal labor cases not only syncytial cells, but entire chorionic villi.

Just at this time, when the lysins are being investigated upon every hand, eclampsia has not escaped. The fact that syncytial cells were found in all cases made this a rational field of investigation. Veit (12) was one of the first to work along this line. He found that by injecting the placental cells of a rabbit into the abdominal cavity of a goose, the blood of the latter was destructive to the rabbit placenta. Veit is inclined to regard the toxins of eclampsia as due to a dissolving of the syncytial cells in the maternal circulation. Halban (22), experimenting along the same line, found that the blood of the mother and fetus had an agglutinating action upon one another. Fehling (22) thinks that this may prove the source of the fibrin-producing substance. Naturally at present it is impossible to offer any comment on this series of experiments, for they are still in their infancy. Should this theory prove correct, we would have a means of explaining all those conditions common to pregnancy, such as nausea, vomiting, etc., and likewise hopes for an antitoxine.

Still holding to the theory of intoxication, Delore first advanced the idea of its being an ectogenic intoxication of bacteritic origin. The clinical appearance does suggest in some ways an acute infection. Doleris, Poney, Blanc and others claimed to have found circulating in the blood, germs which they regarded as being the source of the infection. Gerdes reported having found a specific germ, but Hofmeister showed this germ to be nothing other than the proteus vulgaris. Albert (6) and Mueller (7) have recently come out in support of this view. Albert, examining the placenta from six cases of cesarean sections, claims to have found bacteria in two of them, not, however, a specific germ. According to him, eclampsia is an intoxication caused by a toxine formed in the decidua by bacteria. This theory is too unstable to justify further consideration.

Climate has been regarded by some as of no little significance. This condition could act only by interfering with the proper excretory functions of the organism.

Mention need only be made of the fact that some few regard the thyroid gland as an etiological factor in eclampsia. Normally in pregnancy we find an hypertrophy of this gland, while in eclampsia it is claimed that this is absent. Nicholson (23) and Hergott (3) report good results from the use of thyroid extract.

We have reviewed all of the considerations relative to the maternal organism which has been regarded as the source of eclampsia. A thorough condensation of all these theories, experiments and investigations brings us to but one indisputable fact, and that is that we are dealing with an intoxication. One source from which this toxine may come has not been discussed, namely, the fetus.

Nehling (21), in an article written a few years ago, called attention to the fact that all, except von Winckel and Stumpf, had entirely disregarded this source. At the Gynecological Congress in Giesson in May, 1901, the subject of eclampsia was chosen as one of the principal themes. Fehling, who prepared the Referat for the occasion, presented the following view: "The fetus, having its own metabolism, produces substances which are carried into the maternal

circulation through the placenta. If the excretory function of the mother is equal to the occasion, we note no bad effect; if, however, such is not the case, eclampsia is the result." Many investigators who had been experimenting along this line could confirm his views; and at this congress they were well received.

Fehling (22) asks why, if the child is to be left entirely out of consideration, do we find this condition only during pregnancy, and why in almost every case is the mother relieved at once by delivery.

That the fetus has its own metabolism, all are willing to concede, and that this increases toward the end of pregnancy, especially during the last two months, is certainly true. At once we have an explanation of why eclampsia rarely occurs during the early months. How are these poisons to be excreted unless through the maternal organism? We know that the excretory function of the kidneys of the child during intrauterine life is not sufficient. Ahlfeld (2) claims that the kidneys do not excrete at all during this stage. It seems then only natural that the excreta from the fetus should be disposed of through the maternal organism.

Dienst (20), who had occasion to make post-mortem examinations on three children from eclamptic mothers, found exactly the same lesions which have been found in the mothers, namely, cloudy swelling, degeneration, hemorrhage and especially pronounced infarct building. Koenig and Futh found that the blood of the mother and child showed the same osmotic pressure. These findings can be explained in only one way: There must be a continual interchange of chemical substances between mother and child, which make Fehling's view, that the toxine can come from the fetus, very plausible. Furthermore, the existence of the same pathological changes in the fetus as in the mother, shows that these changes, which have always been found in the parenchymatous organs of the eclamptics, and which have always been regarded as prime factors, need not necessarily be accepted as such. We have every reason for regarding them as secondary to the toxine circulating in the blood. By accepting this as true, we do not assert that the condition of the maternal organism does not play a role in the development of eclampsia. The present theory accepts the view that the maternal organism is not excreting properly, but the cause of this need not be confined to any one organ. It is the retention of a small amount of toxine from the fetal organism which tends to bring about the changes in the different organs and then produces a further retention.

Dienst (14) has made some very interesting experiments. Two rabbits of equal weight were employed. The right kidney of each was extirpated, and one of the rabbits was at once permitted to become pregnant. The pregnant animal developed, after eighteen days, convulsions and died, while the other one remained perfectly normal. The post-mortem showed, on the pregnant animal, exactly the same changes as are found in the organs of an eclamptic. He found that he could bring about the same results much quicker in cases in which he produced an aortic insufficiency and removed a portion of the liver in addition to extirpating the kidney. This shows, experimentally at least, that there must be some interference with excretion in order for eclampsia to develop.

It is perfectly clear that with this condition present, we would at the latter stages of pregnancy have the maternal organism poisoned by toxins from two sources. We have in this theory the means of explaining most of those conditions peculiar to eclampsia.

The most difficult question for solution is, why do we find the condition in primiparæ more often than in multiparæ? Would not a form of immunity explain this?

There are, of course, many points to be further developed before we can accept the fetal theory, but it seems the most rational of those that have yet been offered.

BIBLIOGRAPHY.

- (1) Ahlfeld, Lehrbuch der Geburtshilfe, p. 207.
- (2) Idem., p. 37.
- (3) Annal. de Gynec., Vol. 58, p. 1.
- (4) Arch. f. Gyn., Bd. 65, H. 3, p. 737.
- (5) Idem., Bd. 66, H. 2, p. 221.
- (6) Idem., Bd. 66, H. 2, p. 483.
- (7) Idem., Bd. 66, H. 2, p. 234.
- (8) Idem., Bd. 66, H. 3, p. 590.
- (9) Idem., Bd. 65, H. 2, p. 504.
- (10) Bumm, Lehrbuch der Geburtshilfe, p. 493.
- (11) Centralbl. f. Gyn., 1901, No. 40, p. 1111.
- (12) Idem., 1901, No. 25, p. 700.
- (13) Idem., 1901, No. 21, p. 593.
- (14) Idem., 1901, No. 25, p. 703.
- (15) Dorland, Modern Obstetrics, p. 387.
- (16) Jewett, Practice of Obstetrics, p. 538.
- (17) Monat. f. Geb. u. Gyn., 1895, Bd. 1, H. 2.
- (18) Olshausen-Veit, Lehrbuch d. Geburtshilfe, p. 738.
- (19) Idem., p. 785.
- (20) Sammlung Klinische Vorträge, No. 342.
- (21) Idem., No. 248.
- (22) Verhandlung der Deutsche Gesellschaft, ix.
- (23) Jour. of Gyn. and Obs. of British Empire, Vol. 2, No. 1, p. 40.

SYMPTOMS AND DIFFERENTIAL DIAGNOSIS OF PUERPERAL ECLAMPSIA.

By C. A. RITTER, M. D., of Kansas City, Missouri,

PROFESSOR OF OBSTETRICS, UNIVERSITY MEDICAL COLLEGE.

Few, if any, conditions met in obstetrics exceed in importance and gravity that of eclampsia. Often apparently so sudden in appearance, so unexpected and terrible in its onset, so disastrous to mother and child, taxes the physician's resources to the utmost, demands of him self-possession, prompt and efficient action, coupled with sound judgment and all considered plans of treatment. He who assumes to do obstetrical work must ever be on the alert for, and know the value of, the many danger symptoms manifest during early or latter months of pregnancy.

We voice the unanimous consensus of opinion in stating the work, the responsibility, the earnest solicitation of the obstetrician on behalf of his patient increases in intensity with his increased knowledge and personal experience. He who assumes charge of the pregnant woman or enters the maternity room with indifference, evincing no degree of anxiety as to gestation or labor and its consequence, is usually an unsafe person, incapable of interpreting symptoms or reading aright the many danger-signals, should they be present.

The old and oft-repeated statement that pregnancy is (shall we say may be) a physiological process, that the pregnant and parturient woman will do well if left to nature, may have been true in primitive times, but members of the profession who are to-day engaged in delivery of the legitimate offspring of modern civilization with all the abnormalities this implies, know full well there is a pathological side to obstetrics, and the physician will not travel far along the road in this department without encountering frequent deviations from the normal.

In order to intelligently interpret the slight as well as the graver abnormal symptoms arising as gestation advances, it is absolutely necessary to all concerned that the physician see and know something definite of his patient's general make-up and previous condition before the onset of labor. Hence, we claim that the prospective mother in placing herself under the care of her physician should receive from him as careful an examination as if she were to pass for life insurance.

The phenomenal changes produced in the maternal organism in consequence of gestation are calculated to exercise a marked influence and are more or less responsible for much of the symptomatology manifested during pregnancy. In obedience to the increasing demands of the system made necessary to maintain double life, the blood is increased as well as materially changed in its constituent parts. There is a marked increase in the water and fibrin-making elements and likewise the white corpuscles; the red are supposed to be relatively diminished.

It is very important in summing up the factors entering into the symptomatology and differential diagnosis of eclampsia, to remember the increased functions, changes in shape, size and position, as well as relations of organs affected by gestation. You doubtless remember the remark made by the Village Maiden about Marguerite in "Faust," that "she feeds two." She spoke better than she knew, for literally the pregnant woman breathes, furnishes blood, nutrition, secretes and excretes for herself and child.

So soon as one or more of the different organs fail for any considerable time to perform its normal function, the crippled condition is announced by the respective danger symptoms, warning the attendant of the impending storm. We cannot too strongly emphasize the fact that eclampsia in its mild or severest paroxysms is but a symptom, the expression of a toxemia furnished not by single, but a number of unknown toxins produced in the body by mother and child, accumulating in consequence of failure of excretion or imperfect metabolism. The all-important question for solution in considering the above phases of the disease is, how early and with greatest degree of safety and certainty are we enabled by history, transitory, prodromal or association of symptoms, to diagnose impending eclampsia?

The clinical history under rare conditions may appear as early as the third month, but usually they are not encountered before the second half of gestation, increasing near the close of full term.

The symptoms may vary, since they are due to different kinds and degrees of toxic agents. The different clinical findings, which are instructive in arriving at a diagnosis, differential or otherwise, are expressions of *inaction*, rarely overaction, of the organs of secretion and excretion, and demonstrate beyond a doubt that the symptoms point to failure of the great emunctories of the body.

SYMPTOMATOLOGY.

While the onset of the eclamptic attack is sudden, yet careful analysis of the complex causes responsible for the same, with a correct interpretation of the symptoms as they arise, shows it usually to be of slow origin. That is a gradual intoxication, manifested through gastric, renal, nervous, hepatic, cutaneous and circulatory disturbances. There are many minor conditions appearing now and then during pregnancy which would count for little as symptoms standing alone, but when associated with others, they are valuable as indicators. We refer to the various so-called insignificant ills, as early attacks of indigestion, variations of temperament, etc. The sweet tempered becomes morose, or associated with fear, loss of confidence in physician and friends. Likes and dislikes are magnified or completely changed. These are followed by additional signs of danger, as neuralgia, nausea and pernicious vomiting, insomnia, anemia and melancholia; such should be regarded with suspicion, requiring careful examination of the patient and a thorough inquiry as to the secretions and excretions. Usually from the sixth month of gestation the more classic symptoms make their appearance, as constant headache, gastric disturbances, hepatic torpidity, increased nervous irritability, impaired memory, dimness of vision, urinary secretions and urea diminished. Serum albumen as met in the urine may be a symptom of normal pregnancy, but so soon as it becomes excessive, associated with kidney debris, indicating progressive nephritis, it becomes a positive danger symptom. We regard albuminuria as a symptom which may or may not be accompanied with structural lesions. We may have any of the known lesions of the kidney, occurring in the pregnant woman the same as met with in other persons, and should it antedate gestation, we have the renal disturbances manifested earlier in gestation coupled with graver prognosis. In diagnosing threatened eclampsia we should remember that the toxins responsible for the array of symptoms, causing consequent convulsions, do so from the fact that they are largely absent from the urine and excretions, retained in the serum of the blood and various organs of the body. The healthy pregnant woman should pass forty to sixty ounces of urine daily with specific gravity of 1010 to 1018, total solids 1000 grains and one and one-half to two and one-fourth per cent. of urea, or three hundred or five hundred grains daily. If it fall short of one per cent. it should be regarded as insufficient, and means should be employed to increase it.

Clinical observation has shown that some patients are very susceptible, while others resist the eclamptic poison to a remarkable degree. In the latter class the prodromal as well as the more classic symptomatology is frequently manifested, causing one to predicate an eclamptic seizure, yet we are agreeably surprised to find many such, when placed on proper treatment, are delivered without convulsions. With the elimination of a normal amount of urea, many women go through pregnancy and labor showing well-marked albuminuria, but free from eclamptic seizure.

PRESSURE SYMPTOMS.

The mechanical compression of the ureters and renal vessels by increased growth of uterus has been regarded as responsible for some of the toxic symptoms, while the kidney of pregnancy is often an engorged and overtaxed organ; yet that we have in gestation a mechanical element alone of sufficient nature to account for an eclampsia has not been fully proven. Clinical experience has

demonstrated that patients may suffer from pelvic adhesions, subinvolution, large fibroids and ovarian tumors, as well as various neoplasma affecting the size and position of pelvic and abdominal organs, even though exerting longer and more severe pressure than is met with during pregnancy, and accompanied by symptoms referable to gastric, vascular, renal, hepatic and nervous disturbances, with œdema, general impaired health, etc., yet never associated with or followed by eclampsia. Clinical history and experience have proven that the symptoms and attacks occur most frequently during labor; next, in the last semester of pregnancy, and least in the puerperium. There are a variety of predisposing and exciting causes which should be carefully considered as factors in causing the symptoms of threatened eclampsia, as the young or old primipara, tense abdomen, small pelvis, large fetal head, malposition of child, prolonged labor, twin pregnancy, pre-existing neurosis, or disease of the heart, liver or kidneys, great mental strain or shame, as in the case of illegitimacy, constant domestic worry, overcrowded apartments or tenement dwellers, coupled with lack of exercise, chronic constipation and unhygienic surroundings and improper food.

The more prominent symptoms and signs, comprising the clinical index of the pre-eclamptic state, are indicated by coated tongue, dry skin, mental hepitude, pronounced nervous irritability, disturbed vision, with or without albuminuric retinitis, headache, epigastric pain, increased arterial tension, œdema of face, hands and feet, diminution of all excretions, liquid or solid.

In the light of modern investigation, eclampsia may be defined as an acute disease, appearing during gestation, labor and puerperal, manifest by a series of clonic and tonic convulsions, affecting voluntary and involuntary muscles, with loss of consciousness. The seizure is similar in type to the well-recognized epileptiform convulsion. A distinct aura or stare may initiate the paroxysm, the eyelids twitch, spasms of the facial muscles, mouth drawn to one side, tongue injured, oscillating of the pupils, insensibility to light, rolling of eyeballs, cyanosis, the spasm involving muscles of chest, trunk and, later, lower extremities, respiration is impaired, unconsciousness, clonic and tonic convulsions, lasting from one-half to two minutes, with coma, pulse weak and rapid or full and bounding, ranging from 100 to 140. Temperature from near normal to 101 or 104, usually rising with each succeeding paroxysm.

DIFFERENTIAL DIAGNOSIS.

While the diagnosis of eclampsia would at first seem an easy task, the mere occurrence of a convulsive seizure during gestation, labor or puerperium may be other than eclamptic, appearing with or without unconsciousness, they are indicative of a number of pathological conditions. Hysteria, as met during pregnancy, illustrates forcibly the fact that during gestation intercurrent or pre-existing conditions are always exaggerated, showing the mental and physical strain followed by a varied degree of nervous manifestations. Hysteria becomes dangerous when the attacks assume a form of maniacal excitement. It may be usually excluded from the history of the case and character of the convulsions. The negative history of the disturbance of circulation, absence of fever, cyanosis, coma or œdema; the fact that consciousness is not entirely lost, during the convulsion; that certain sets of muscles of the head, trunk, upper and lower ex-

trémities are involved, the absence of the stigmata of hysteria, will all tend to exclude hysteria. In hysteria larger quantities of clear urine are voided, free from albumin and casts. The convulsions frequently terminate in fits of laughter and crying, conditions not dangerous to either mother or child. A mild form due to the irritable, nervous condition is present in many pregnant women, and under such circumstances the most trivial cause may precipitate hysterical paroxysms.

Epilepsy during pregnancy presents the most striking resemblance to eclampsia, differing from it by lack of rapid succession of convulsions and immediate danger to life. There is the aura, loss of consciousness and sensation, with a degree of cyanosis, followed by twitching of the facial muscles, clonic and tonic convulsions, with coma, patient falling, frequently causing bodily injuries.

In differentiating from eclampsia, we have the history of previous attacks, the single seizure in the present attack and absence of prodromal symptoms of eclampsia. The urine is usually normal in amount and free from pathological findings. There is disturbance of circulation, but no fever or œdema. The disease, as a complication of pregnancy, is somewhat rare, largely from the fact that the majority of epileptic women are sterile. The disease appears to exercise no unfavorable influence to the course of gestation. In some cases the frequency and intensity of the paroxysms are lessened, in others the disease becomes aggravated. It seldom appears for the first time during pregnancy or labor.

Apoplexy is rarely encountered during gestation. Its most frequent occurrence is as a complication of eclampsia. When independent of the latter, it is generally from emboli, associated with endocarditis or following phlebitis of the lower extremities. In differentiating from eclampsia, we are assisted by the existence of pregnancy, age of patient, history as to habits, brain, cardiac or kidney disease, absence of convulsions, prolonged stupor, slow pulse, low temperature at the onset of the stroke, with paralysis and relaxed sphincters.

We are informed by the preceding paper that the pathogenesis of eclampsia is unsettled, hence we cannot call it a pathologic entity, but find presented for diagnostic consideration an array of symptoms and signs indicative of different toxic agents, as manifest through the various organs, responsible for the many danger-signals in the make-up of eclampsia, whose nervous deviations vary in irritability and intensity, including all grades, from mere twitching to clonic and tonic convulsions, coma and death, occupying the unique position of having no parallel in the human economy, save in the pregnant and parturient woman.

TREATMENT OF PUERPERAL ECLAMPSIA.

BY B. M. HYPES, M. D., of St. Louis, Missouri.

Not only is puerperal eclampsia one of the most dreaded calamities that may befall the pregnant and lying-in woman, but I know of no other that, at the present day, is so universally occupying the mind of the medical profession. The clinicians are studying it; the pathologists are devoting their most earnest efforts to discover its lesions; while the laboratory men are straining their every effort to discover its true etiology. Medical literature is teeming with articles from the pens of those who are devoting special study to its hidden mysteries. Marked advance is being made in solving them, and, with the present progress continued, it will not be long before we know as much about puerperal eclampsia as we now know about its sister calamity, puerperal infection. With the etiology and pathology definitely settled, a successful scientific treatment will at once follow.

While it is not within the scope of the subject of this paper to consider the many theories as to the etiology of puerperal eclampsia, it is essential that, before outlining a method of treatment, a brief statement of the recognized conditions existing and difficulties to be overcome should be made.

Without entering into detail, and only referring to them as a basis of treatment, the causes of puerperal eclampsia may be divided into predisposing and exciting. Among the first may be mentioned certain pre-existing diseases, as of the heart, kidneys, etc.; pregnancy in the unmarried, as noted by Wiegner and Price; primiparity; multiple pregnancy and hydramnios. Especially does the hypersensitive and irritable condition of the pregnant woman render her more liable to spasms. According to Windscheid, tetany and chorea rarely affect women except during pregnancy; a fact that strongly emphasizes her susceptibility to nervous affections. The pregnant woman's physiological condition predisposes her to puerperal eclampsia. Her blood, although increased in quantity, shows fewer red blood cells and is burdened with excess of leukomains and increased toxicity of serum. All her organs, especially the heart, lungs, liver, kidneys and thyroid gland, must do extra work. With this knowledge it behooves the family physician not only to keep her under constant surveillance, but to warn her that with the first appearance of dangerous symptoms she should seek medical advice.

As to the exciting causes we must confess much ignorance. However, it may be stated as the consensus of opinion among obstetricians and pathologists of the present day that puerperal eclampsia is caused by the retention in the blood of the pregnant woman of toxic material, originating from intestinal putrefaction and destructive metabolism, both in her own system and in that of the fetus (principally the latter); that she thereby suffers from toxemia or autointoxication; that this retention of poisonous material is accompanied by insufficiency of the emunctory organs, especially the kidneys, the liver and, according to H. Oliphant Nicholson, the thyroid gland; that these organs are not primarily, but rather secondarily, affected, analogous to the pathological conditions following scarlatina or diphtheria. The probable *modus operandi* in the production of the spasm is that these poisons, circulating in the blood, act as an irritant to the sympathetic nervous system, causing a contraction of the

arterioles of the body, and especially those of the brain. As a result of this contraction of the arterioles, the base of the brain suffers an acute anemia, while the large vessels of the cortex become engorged and press upon and irritate the cortical substance, thereby producing the spasm.

With this cursory review of the conditions to be met we may more intelligently take up the treatment. This will be remedial during the paroxysm and prophylactic for threatened eclampsia.

In managing the convulsive stage the indications for treatment are to control the spasm, to relax the contracting arterioles, to deplete the engorged blood vessels, and to eliminate the exciting toxins.

To control these spasms chloroform may be given to the surgical degree. This is the almost world-wide custom, but it has no curative effect, and when long continued is dangerous, as it favors broncho-pneumonia, increases the disintegration of red blood corpuscles and fatty degeneration of vital organs. In the last two cases treated by the author no anesthetic was used, the patients having been managed during the spasm as in an ordinary epileptic seizure. The inhalation of oxygen gas, as recommended by Prof. W. Stroganoff, of St. Petersburg, seems a more rational treatment.

To further control the convulsion and to meet the indications for treatment outlined above, three remedies stand forth as pre-eminent, namely, morphine, chloral and veratrum viride. With or without an anesthetic the author, in managing this disease, at once resorts to the use of veratrum viride. Fifteen drops of the fluid extract (preferably Squibbs) is administered hypodermically, and repeated in five or ten-drop doses every half hour until the pulse is reduced to sixty beats per minute. With the pulse thus lowered eclamptic spasms are unknown. Veratrum viride thus given acts as a vaso-dilator, lessens the blood pressure, slows the pulse, lowers the temperature, induces diuresis and diaphoresis and assists in dilating the os uteri. Objection is made that it is a "too dangerous drug to use." The objection is probably without foundation, as it has been administered for the past fifty years in America in large quantities and heroic doses without a single fatality being reported. Should syncope threaten after its use the reclining position with opium and heart stimulants will readily correct. This remedy has been employed by the author in ten cases with one death. This one fatality should not be counted either for or against the remedy, as the patient was moribund when first seen and died within an hour.

In addition to the administration of veratrum viride in cases exhibiting plethora, engorged blood vessels, edema of the lungs, and other symptoms favoring its use, the author resorts to that almost lost art, venesection. "Blood letting forms the first step in the treatment of puerperal convulsions," says the late Dr. Lusk. It is adapted to all cases save the anemic. Contrary to general teaching, a weak pulse is no contraindication. The majority of the author's cases have presented a rapid, weak or wiry pulse. The blood of the average woman weighing 125 pounds amounts to eight or nine pints. Blood letting to the amount of one pint, the abstracted blood being replaced by an equal amount of salt solution, will practically remove one-fourth to one-fifth of the toxic material, says Dr. Williams, of Johns Hopkins University. By its use the arterial tension with accompanying arteriole contraction will be lessened, the sympathetic irritation relieved, and the normal functioning of the organs favored.

The general mortality of puerperal eclampsia is from 25 to 50 per cent. But statistics from our western physicians, who bleed freely (from 16 to 30 ounces), show a mortality of only 7 per cent. Should the spasms return, venesection may be repeated, or, if contra-indicated, other remedies, to which venesection has rendered the patient more susceptible, may be used. In five of the author's ten cases venesection was practiced.

Hydrate of chloral has been used very successfully in treating this disease. Given in 30 to 60 grain doses with milk per rectum, not only aids in controlling the spasms, but lessens the annoying restlessness and irritability that follow. But like chloroform, which it greatly resembles in action, it has its deleterious effects and of late years has been abandoned by most practitioners for more successful remedies.

Morphine is the most generally recommended medicine at the present time for the control of puerperal convulsions. Following Veit's reports and recommendations, it has been almost universally used in Germany for the past ten years and is becoming very popular in England and America. It is given in heroic doses from a fourth to one and one-half grains hypodermatically, repeated according to the restlessness or the return of the spasms. However, its ill effects on some of the organs and subsequent locking up of the secretions are objections to its administration. Although claimed as the "German treatment," morphine in large doses was recommended by Dr. C. C. P. Clark, of Oswego, New York, in 1880 (*American Journal of Obstetrics*, 1881), long before it became popular in Germany.

At the present day no surgeon would presume to undertake a trying operation without having at hand a prepared salt solution and the apparatus for its administration. Of paramount importance is the use of this remedy in puerperal eclampsia. Since Jardine, of Glasgow, reported (*Scottish Medical and Surgical Journal*, October, 1899), that by this treatment the mortality in the Glasgow maternity was reduced from 47 per cent. to 17 per cent., its application has increased in popularity until now it has become almost universal.

The ease with which it can be administered hypodermically, intravenously, or per rectum, together with its almost immediately beneficial results should commend its use to every practitioner. It acts as a stimulant to all the organs, especially to the heart and kidneys; it dilutes the toxins circulating in the blood, thereby rendering them less irritating to the nerve centers; it dilates the capillaries, thereby increasing diaphoresis and diuresis; and it promotes elimination through all the emunctories.

Another remedy of undoubted value in many cases is the hot pack. It has a soothing, calming effect, principally by inducing diaphoresis and by relieving the engorgement of the internal organs. Its use renders unnecessary the administration of that dangerous and depressing drug—pilocarpin.

Besides strychnia, digitalis, and other stimulants, nitroglycerine is a remedy of proven value in eclampsia, as it reduces arterial tension and vaso-motor spasm, and moreover acts as a mild diuretic.

In order to eliminate toxins from the blood, catharsis, diaphoresis and diuresis should be encouraged. Croton oil, elaterium, calomel, thorough lavage of the bowels may be employed for the first; the wet packs for the second; and salt solution for the third. Strong medicinal diuresis should be avoided as the kidney is an already overworked organ.

In cases where the foregoing measures fail and the spasms continue, obstetrical interference may be necessary. It is a statistical fact that the convulsions cease in about 90 per cent. of the cases as soon as the child is delivered. Hence during labor we should hasten delivery by forceps or version if the os is dilated or dilatable.

In cases where labor has not begun or where the cervix presents marked resistance, forcible dilation by the hand or Bossi dilator or Duehrssen's multiple incisions, or cesarean section may be employed. However, statistics are, as yet, too meager to warrant obstetrical interference in all these persistent cases and the majority of writers still prefer to rely upon the expectant treatment. In case of the death of the mother with signs of a living child, rapid delivery through the parturient canal or cesarean section should be immediately performed.

Any paper on puerperal eclampsia would be incomplete today without reference to articles recently published by H. Oliphant Nicholson (*Journal of Obstetrics and Gynecology of the British Empire*, July, 1902) and by Professor W. Stroganoff (*Obstetrics*, Vol. iii, No. 2, February, 1901). Dr. Nicholson believes that eclampsia depends upon inadequacy of the thyroid secretion. He says: "It is evident that the real significance of the pre-eclamptic stage is that it points to a break-down of some part of the defensive mechanism. Furthermore, this break-down is the result of some inadequacy of the thyroid and para-thyroid gland whereby the process of nitrogenous metabolism, instead of resulting in the formation of urea, ceases with the production of intermediate substances which, when absorbed, excite the symptoms of a toxemia. In this way the degree of toxemia of pregnancy comes to be dependent, directly or indirectly, upon the quantity and activity of the thyroid secretion; the thyroid gland may, therefore, be given a primary role in the causation of eclampsia." In accordance with this theory, he has treated the pre-eclamptic symptoms—albuminuria, edema, headache, vomiting, etc.,—with five-grain doses of the thyroid extract given night and morning with eminent success. Upon stoppage of the treatment the symptoms would, in some cases, return, but they would again disappear upon the resumption of this remedy. He and others report favorable results from the use of thyroid extract during the spasms. The theory and treatment are certainly worthy of consideration and investigation.

Professor Stroganoff makes the wonderful report of fifty-eight cases of eclampsia without a maternal death and with fetal mortality of 11 per cent. He considers eclampsia an acute infectious disease usually running a limited course which rarely exceeds twenty-four to forty-eight hours. He uses no chloroform or ether, but gives oxygen inhalation during the attack. After the first convulsion he gives one-fourth grain morphine hypodermatically; with restlessness or spasm repeat dose in one hour. He then gives twenty to forty grains of chloral every five to ten hours to induce narcosis. With convulsions threatened or continuing, he occasionally repeats the dose of morphine; follows with quiet, fresh air and occasional inhalation of oxygen and, when the case demands, dilates the os and delivers the child.

Contrary to the usual custom, I have left the prophylactic treatment to be considered last. I do this for the reason that I regard it the more important. As before stated in this paper, the pathogenesis of this disease is in doubt. The best practitioners differ as to its therapeutics, but there can be no question as to the

truth of the statement that almost all of the cases of eclampsia may be prevented if proper prophylactic treatment be instituted. Remember, the defensive organs—kidneys, liver, and possibly the thyroid gland—are at fault. A large per cent. of the cases are associated with renal disease or insufficiency. This abnormal condition of the kidney every practitioner of medicine should be able to diagnose. But how many of us take the trouble to examine the urine of the pregnant woman weekly or monthly, as we should? Renal insufficiency ought to be early recognized and proper treatment at once inaugurated. Were this universally done many women who now fill premature graves might be alive and happy with their families today. Puerperal eclampsia should be recognized as a preventable disease and as great care should be exercised by the physician to avert it as he employs in the prevention of puerperal sepsis.

The prophylactic treatment will be hygienic and medicinal. With albuminuria, edema, persistent headache, vomiting, disorders of the special senses, hypogastric pain, and other prodromata, the patient should be put upon a strictly milk diet. Milk is almost a specific for the renal affections of pregnancy. Pinard at a meeting of the Paris Academy of Medicine in 1893, said: "Thanks to this precaution I have not observed a single case of eclampsia in more than five thousand women admitted to the Baudelocque Lying-in Hospital since 1889."

Farinaceous food, white meats and fish may be allowed as symptoms improve. Not only should constipation be avoided, but with toxemic symptoms daily free catharsis by salines should be insisted upon. Thus the liver is kept active and there is no doubt that, in some cases, it is the guilty organ. By these means the toxemia is lessened without impoverishing the blood of its red corpuscles. In addition to milk diet, plenty of pure water should be taken to flush the kidneys. None but mild diuretics are permissible, owing to the overworked condition of the kidneys. A warm bath should be given daily to promote diaphoresis. Flannel clothing should be worn to protect against chilling of the surface of the skin. Fresh air, sunshine, proper exercise and rest should always be insisted upon.

Medicinal treatment for toxemic symptoms will include cathartics, diuretics, diaphoretics, nerve and heart sedatives, and possibly thyroid extract, and such general tonics as may be indicated. All these measures failing to give relief and the patient growing worse, the induction of abortion or premature labor will be justified.

INTERSTATE MEDICAL JOURNAL.

EDITED BY

WILLARD BARTLETT, M. D.	H. McC. JOHNSON, M. D.
MALVERN B. CLOPTON, M. D.	JESSE S. MYER, M. D.
HUGO EHRENFEST, M. D.	WARREN B. OUTTEN, M. D.
MARTIN F. ENGMAN, M. D.	WILLIAM E. SAUER, M. D.
ALFRED FRIEDLANDER, M. D.	SIDNEY I. SCHWAB, M. D.
JOHN GREEN, JR., M. D.	ALBERT E. TAUSSIG, M. D.
CARL FISCH, M. D.	

OTHO F. BALL, M. D. Managing Editor.
E. J. GOODWIN, M. D., Associate Managing Editor.

COLLABORATORS:

MAX MICHAELIS, M. D., Professor of Internal Medicine, University of Berlin, Germany.	JULIUS NEUMANN, M. D., Docent of Obstetrics and Gynecology, Univer- sity of Vienna, Austria.
FRANZ NEUGEBAUER, M. D., Chief of Gynecologic Department Evangelical Hospital, Warsaw, Russia.	JULIUS SCHNITZLER, M. D., Docent of Surgery, University of Vienna, Aus- tria; Surgeon-in-Chief, Franz Joseph Hospital, Vienna.
HEINZ WOHLGEMUTH, M. D., Berlin, Germany.	

Address all communications to the INTERSTATE MEDICAL JOURNAL, LINMAR BLDG., ST. LOUIS, MO.

EDITORIAL COMMENT.

THE VARIOLA-ORGANISM.

It is perhaps unfair to reflect in an editorial on a discovery that so far has only become known by what is called a preliminary report. It goes, however, without saying, that these preliminary reports, as a rule, contain the gist of what the author has unearthed, and that details that are of paramount importance for the estimation of the results are not withheld, this especially for the reason that the explicit publication naturally is often delayed for a long time. The publication of a preliminary report, however, would not be justified if it did not contain everything affording the possibility to adequately judge about the work done. Councilman certainly gave in nuce all that he thought he had found. He believes to have at last identified the causative agent of variola. If he really has discovered it he has done a work that will leave his name immortal. Hundreds of our most skilled investigators have foundered on this cliff, although we know that there are those that believe they have not foundered. Simultaneously, almost, with Councilman's announcement there appeared in France a paper in which the very same subject was investigated under conditions and with methods that could not be surpassed, by a man, by the way, that was honest and sincere in his search for the suspected microbium. Not only variola and vaccinia, but more extensively ovinia, were scrutinized for parasites, but nothing was found that microscopically and biologically could be taken as such. It was established by clinching experiments that the microbes, which certainly are there, must be small enough to pass certain filters, that means must necessarily

under the powers of our best microscopes at the best appear as undifferentiable and indistinct bodies. To be exact, we must say that this was only shown for ovinia, but ovinia and variola are so related to each other that the discussion about their eventual identity has only lately been closed.

All this, however, would have no bearing on our judgment, if Councilman's paper would present to us a single fact that unobjectionably would establish his assertion. As far as it goes it is based merely on microscopic pictures of variola and vaccinia lesions; the remarks about inoculations, etc., are such that no meaning can be attached to them. What Councilman has done is the finding of a so-called parasite in the lesions and, by comparison of different appearances of these parasites in different stages of the development of the lesion, to decree a cycle of development. To this is added the remarkable news that in variola another cycle is gone through of different character, while in vaccinia the development of the parasite is limited to the first cycle in variola.

Truly, new worlds will be discovered by these hunters for microbes, worlds of organisms that will show that our conceptions of the development of organic life have been so far altogether puerile. Of course, since we have not yet found another name, all these things are called protozoa. But what are protozoa? Science connects a certain meaning with this term; in our medical literature everything is called a protozoan that does not look like a bacillus or a coccus.

Why is it necessary to abandon recognized and controlled methods of research in this endeavor to discover new pathogenic organisms? The mistrust that is brought forward anywhere to a conclusion based on the comparison of so-called transition stages is nowhere justified as much as when we have to deal with unicellular organisms. The history of our science abounds with such mistakes. Koch has made an end of this, and how far the conviction of this truth goes is shown by the reserved opinion of scientists on the etiologic role of amebæ in dysentery. Our belief that every pathogenic agent must be of a size that it can be made visible has long been shattered, and we may be safely contented to work in the line of Nocard, Löffler, Frosch, Beyerinck, Lode and others and study the qualities of parasites, to see which our mechanical means are as yet incompetent. We are perfectly safe in assuming that unless new methods are discovered with means much beyond our present understanding, in variola and other infections we will not see the parasites with our eyes, however scrutinizingly we may search our sections for so far unnoticed bodies or formations. Since up to this time never anything has been seen that withstood scientific criticism, Councilman's parasites, too, will fall. They will fall like all of the yellow fever parasites have fallen, since the beautiful work of Reed and Carroll established at least one of their morphologic characters—that of extreme minuteness.

THE INCREASING INABILITY OF MATERNAL NURSING.

Artificial infant feeding is of comparatively recent date. The ancients knew nothing of it. Not until the end of the fifteenth century, so we learn from Biedert (*Die Kinderernährung im Säuglingsalter*, Stuttgart, 1897), was artificial food substituted for nursing by mothers or wet-nurses. A survey of the history of medicine informs us that the tendency—or necessity—of substitute feeding has been growing ever since. "Opposition to maternal nursing," says Hamill in a recent article (*Amer. Jour. of Obstet.*, March, 1903), "has been more prevalent at some periods than at others, and, fortunately, perhaps, always more

common in the higher than in the lower walks of life." About the middle of the eighteenth century, under the influence of the writings of Jean Jaques Rousseau, society, in an acme of high sentimentality, devoted itself to the cult of nature, and it became "bon-ton" for mothers to nurse their own children. But already in the latter part of the eighteenth and in the beginning of the nineteenth century, custom—or style, as some author expresses it—practically proscribed maternal nursing among the aristocrats of England and France.

Though but few reliable statistics exist, they seem to indicate that not only the unwillingness but the actual inability of mothers to nurse their children is constantly assuming wider dimensions, and that throughout the civilized world, especially in the cities, the majority of women cannot fulfill their maternal duties. Planchau (*L'Obstetrique*, May, 1902), in Tarnier's clinic in Paris, records two hundred and forty-five women who were observed during at least seven months. Of these two hundred and forty-five, 64.4 per cent. were perfectly able to nurse, 29.8 per cent. had not sufficient milk, while 5.7 per cent. had not milk at all. Bunge, in Basle, Switzerland (*Die Zunehmende Unfaehigkeit der Frauen, ihre Kinder zu stillen, etc.*, Muenchen., 1902) has made very exhaustive studies on this subject. He divided the cases in his statistics into two categories: those who were able and those who were unable to nurse their children during at least nine months without requiring artificial food. Dubious cases were left out of consideration, so that he was in a position to produce perfectly reliable statistics. Thus he found that among six hundred and sixty-five women one hundred and eighty-two were able and four hundred and eighty-three were unable to nurse.

These facts stand in marked contradistinction to observations made in more or less uncivilized countries. Gellhorn (*Deutsche Medic. Wochenschr.*, 1899, No. 9) states that he frequently observed, in Siam, children, two or three years old, who interrupted their plays to return to their mothers' breast, and relates that boys of nine years may be seen to place their palm leaf cigarettes behind their ears in order to take a sip of their mothers' milk. Ploss (*Das Weib in der Natur und Voelkerkunde*, Leipzig, 1899, Vol. ii), gives an elaborate table on the duration of lactation in various extra-European countries, and shows that a period of two or three years is the most common length of time for maternal nursing. A number of countries exceed this average by far, and the Esquimaux in King William's Land even nurse their children so long as fourteen and fifteen years. Of course, the possibility must be admitted that in some of these cases observed, repeated intercurrent pregnancies may have led to a continuous production of milk. Yet, there cannot be any doubt that the duration of lactation in these countries surpasses that ordinarily observed among the so-called civilized nations.

The search for the causes of this growing inability of maternal nursing is not only interesting from a medical standpoint, but also extremely important as a matter of national economics. It may not altogether be denied, so long as we have no statistics at our disposal that could prove the contrary, that carefully administered artificial feeding may be equivalent, for the development of the child, to maternal nursing. But this indispensable amount of care will never be taken by the large masses of the people. The statistics on the mortality of infants clearly prove the truth of this statement. In Berlin, for instance, in 1889-1890, the mortality among first-year infants reared with cow's milk was six times as great as among breast-fed children. We may, in analogy, assume more or less

identical conditions in our own country. Thus all authorities on artificial infant feeding, such as Biedert (*l. c.*), Jacoby (*Infant Diet*, New York, 1873), and many others who, by their untiring efforts, have saved the lives of many thousands of the new-born, fully agree that breast milk is absolutely the best food for the infant. In trying to restore to mothers the vanishing ability of providing the new-born with this best and only natural food, we must needs go back to the primary causes of the prevailing conditions. Kerley (*Short Talk with Young Mothers*, New York and London, 1901) finds these causes in the social conditions of our time, which are against the development of those requirements so essential for the proper performance of all the functions of motherhood. A nursing mother, in addition to being in fair physical condition, should be mentally at rest. This is not the case with the sensitive, overstrained and impressionable women of our better classes. A nursing mother should worry little, and have no anxiety for the morrow. A mother, to nurse her child successfully, must be a happy, contented woman. It is the lack of happiness, the absence of contentment, that pervades all classes, that renders women unable to nurse their children. The American women of our large cities assume the cares and responsibilities of life equally with men. Among the so-called higher classes, there is a constant struggle for social pre-eminence. Among the majority of the so-called middle classes, the contest for wealth and place never ceases from the moment the school days begin until death or infirmity closes the scene. Among the poor there are the ceaseless toil, the struggle for food and shelter, the care of the sick and the frequent deaths of little ones in the family whom they are unable to properly care for. In all classes, therefore, the conditions of life are such as seriously to interfere with the normal function of nursing, no matter how excellent may be the mother's physical condition.

Bunge (*l. c.*), on the other hand, finds the inability to nurse, in the main, due to heredity. "If a woman cannot nurse her child, the daughter, almost without exception, cannot nurse either, and this faculty is irreparably lost to all coming generations." Of special interest are the cases in which the mother is able to nurse, while her daughter is unable to do so. The etiologic factor in these cases, according to Bunge, within our present knowledge of causes, is alcoholism. "If the father be a drinker, the daughter loses the ability of nursing, and this faculty is irretrievably lost to all coming generations." The inability to nurse is no isolated symptom, but is associated with other signs of degeneration. The children, then, are insufficiently nourished, and thus the degeneration increases in each following generation, and finally leads to the destruction of the whole family.

With due respect to the great merits of Bunge, we cannot but record these expressions of rather extreme abstinence views with the utmost reserve. Though they seem to be supported by the observations of Dr. Christ, that among the Turks, Arabs and Kurds, Mohammedan people, who refrain, by religious demand, from the use of alcohol, artificial infant food is absolutely unknown, yet, from personal communications we learn that in Russia, where both sexes freely indulge in alcoholics, the women of the lower classes, in other words, the majority of mothers, nurse their own children.

The treatment of inability to nurse is, almost exclusively, by prevention. Here we have to distinguish between personal and general prophylaxis. The former should be well known to every family physician, and consists in hygienic

measures which must be observed during the whole course of gestation. Moreover, this hygiene of woman ought to begin with the moment of her own birth and be continued throughout life, especially during the all-important phase of puberty. We need but refer to the able work on this subject by Platon and Sepet (*Hygiene de la Femme*, Paris, 1902).

As to general prophylaxis, the radical change of unfavorable social conditions is beyond the scope of our medical interference. But there is another way to overcome degeneration: natural selection. Bunge demands that a healthy man, who wishes healthy descendants, should not marry

1. A girl that could not have been nursed by her own mother;
2. A girl of a tuberculous family;
3. A girl of a neurotic family;
4. The daughter of a drinker.

It goes without saying that the same right should be given to the marrying girl.

Our knowledge upon this interesting and important subject is, as yet, far from complete, and it will largely rest upon the general practitioner, who alone is enabled to study families through several generations, to add further valuable material to the documents in evidence.

BACTERIAL LIGHT LAMP.

Bakterienlichtlampe (bacterial light lamp) is the name given by Prof. Mölisch to an apparatus concerning which he sends the following communication to the Vienna Academy of Sciences. He has succeeded experimentally in photographing phosphorescent cultures of bacteria, after an exposure of five minutes, by their own light. In order to photograph other objects by means of this bacterial light, he constructed a special bacterial lamp. This consists of a large flask whose interior is lined with salt-peptone-gelatine, previously inoculated with bacteria. On the second day following the inoculation the lamps begin to glow with a beautiful bluish-green light, due to the phosphorescent colonies growing within. These living lamps have the property of shining with undiminished intensity for two or three weeks and then gradually diminishing in strength. Their light is sufficient to permit one to recognize the face of a person standing two yards away, to tell the time, to read a thermometer or even large-sized print. In view of the freedom from danger of such a cold light its use in mining operations or in powder magazines may become of importance. With this lamp as a source of light, Prof. Molisch succeeded without difficulty in photographing several objects, and he exhibited as examples photographs of a bust of Schiller, of a thermometer and of a printed page. Organic light, particularly the rays emanating from glowing insects, such as the so-called glow-worm, has been made the subject of many investigations, and it was even asserted that this light had the properties of the Roentgen rays. This view is, however, based on a misunderstanding, as Prof. Molisch proves. Bacterial light acts just like ordinary light.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Concerning the Theory of Paroxysmal Hemoglobinuria.—KRETZ (*Wiener Klinische Wochenschrift*, No. 18, 1903) applied Ehrlich's theory of hemolysis in the study of a case of paroxysmal hemoglobinuria. In order to make comparative tests, he examined also the blood from a case of ulcer of the stomach, from a case of nephritis and from a case of herpes zoster.

The blood from the case of hemoglobinuria was examined, both with reference to the solubility of its erythrocytes by the fresh human serum, and to the dissolving power of its serum. The control tests showed that the erythrocytes of the blood from the case of hemoglobinuria were much richer in "hemolytic ambozeptores" than those from any of the other cases examined, and that the hemolytic power of the serum from this case was decidedly greater than was that of the serum taken from the other cases.

The Determination of the Urinary Pigments and Their Diagnostic Significance.—KLEMPERER (*Berliner Klinische Wochenschrift*, No. 14, 1903) endeavors to reach conclusions as to the function of the kidneys through the determination of the amount of the urinary pigment excreted in a definite time. In the normal urine but one pigment need be considered, viz., the urochrom. The other coloring matter, such as urobilin, uroerythrin, etc., need not be taken into consideration, for they occur, in the normal state, only in the merest traces. They are increased under pathological conditions. These can be readily detected by the spectroscope, while solutions of urochrom are permeable to all of the rays of the spectrum. The urochrom can be detected and isolated from the urine through complicated chemical processes. The author has devised a simple method for determining approximately the amount of urochrom present in urine, through comparisons with fixed solutions.

If 0.1 grains of dry Echtgelb G. (Leitz) is dissolved in a liter of water, and 5 ccm. of this solution be diluted to 90 ccm., a solution is obtained which is identical in color with a 0.1 proc. solution of urochrom. This solution, kept in an appropriate glass vessel, is used for comparison with the diluted urine.

The author expresses reasons why he believes the urochrom to be manufactured from the blood pigments by the kidneys.

He found in nine normal cases that the amount of urochrom excreted in twenty-four hours varies from 0.8 to 2.7 grams.

The Significance of Oxaluria.—OGDEN (*Medical News*, No. 14, 1903).—Oxaluria, which is characterized by the presence of oxalate of calcium crystals in the urine, may be temporary or persistent. Their continued presence always shows an overproduction of calcium oxalate. Experiments have shown intestinal fermentation to be one of the most important causes. As yet no organism has been discovered which produces oxalic acid during fermentation. It is quite probable that a diminution or absence of hydrochloric acid in the stomach is necessary for the development of the fermentative oxaluria.

The ingestion of foods, such as sorrel, rhubarb, tomatoes, asparagus, spinach, onions, cabbage, grapes, apples, etc., also cause oxaluria. The

author maintains that if, after removing all oxalic acid containing foods from the diet list, oxaluria still persists, it is practically certain that the cause lies in the digestive tract.

Primary crystals of calcium oxalate, i. e., those that have separated from the urine, inside the body, often produce a marked irritation of the urinary tract, while a protracted formation of the crystals often results in the formation of calculi.

Oxaluria often occurs in diabetics, probably as the result of intestinal fermentation consequent upon the ingestion of one kind of food. No satisfactory explanation has ever been given for the frequent occurrence of oxaluria in nervous disorders.

The Spontaneous Fracture of Urinary Calculi in the Bladder.—KAPSOMMER (*Wiener Klinische Wochenschrift*, April 30, 1903) could find but sixty cases of spontaneous disruption or fracture of urinary calculi reported in the literature. Nearly all of these cases pertained to urate stones. There were two exceptions, one a phosphate stone, and one an oxalate. Ninety per cent of these cases were in old men.

Most of those who have observed such cases attribute the phenomenon to chemical changes within the stone, sudden liberation of gases, etc. The author attributes his case to mechanical causes.

The stone was broken into forty-nine sections, which weighed 103.75 grammes. The author maintains that its dissolution could only have been brought about through a contraction of the bladder.

The Prognostic Value of the Diazo Reaction in Pulmonary Tuberculosis.—WOOD (*Medical News*, April 4, 1903) made a study of the diazo-reaction in 363 cases of pulmonary tuberculosis, and comes to interesting conclusions as to its significance. If the urine of a case of pulmonary tuberculosis shows no diazo reaction and a kidney lesion can be excluded, the prognosis is favorable. Only 10 per cent of the moderately severe cases gave a reaction, and in a number of these the reaction disappeared on treatment. Early cases, not ill enough to apply for hospital treatment, do not give the reaction.

If the urine of a patient shows an occasional diazo reaction the prognosis is not necessarily grave, as only some 66 per cent of the patients showing an occasional positive reaction die.

If the urine of a case of pulmonary tuberculosis shows a continuous strong diazo reaction, the prognosis is very grave, since a large proportion of such cases die within six months.

The presence of a diazo reaction on the first examination should not debar the case from a thorough trial of climatic treatment in a proper sanatorium.

A Study of Leucocytosis in Perityphlitis.—GOETJES (*Muenchener Medizinische Wochenschrift*, No 17, 1903) carried out a series of systematic observations with reference to the leucocyte count in perityphlitis, and came to the following conclusions: A constant high leucocytosis (20,000–30,000) in perityphlitis always points to the existence of a purulent process, providing there are no other complications to which leucocytosis may be attributed.

If the number of leucocytes is normal, or even decreased, and there are severe clinical symptoms, the case should be considered a serious one.

These observations apply only to those cases in which there is a circumscribed abscess, for in diffuse peritonitis the leucocyte count loses its certainty. In fact, under such circumstances a high leucocyte count permits of a favorable prognosis.

The Abnormal Mobility of the Gall-Bladder Containing Stones.—LIEBLEIN (*Muenchener Medicinische Wochenschrift*, No. 15, 1903) reports a case in which he found a tumor about the size of a child's fist, to the right of and somewhat above the navel. It was quite movable, seemed to have no connection with the liver; could be pushed up behind the liver or into the epigastrium. In the absence of any other indications, a diagnosis of carcinoma of a movable kidney (right) was made, and operation recommended.

The tumor was found to be the dilated gall-bladder containing a large stone. The cystic duct had been drawn out into a long pedicle, and permitted the gall-bladder almost unlimited motion.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Intra-Abdominal Torsion of the Great Omentum.—VIGNARD and GIRAudeau (*Revue de Chirurgie*, No. 4, Tome xii).—Two of these rare cases which came under the care of the authors inspired them to make this report of all the twenty cases which the literature contains. Their first patient experienced a sudden onset of abdominal symptoms, but suffered no vomiting or arrest of stool; there was a large mass in the right side of the belly, which at the operation was seen to be the omentum. This was twisted three times near the colon, thus forming of itself a comparatively small pedicle, which was ligated and the whole removed. On the twenty-second day the patient left the hospital completely cured. The case of the second patient was unique, in as much as he suffered from recurring attacks of severe colic; his illness consisting of six attacks, covered a period of some years. In this case a diagnosis of appendicitis was made, but at the operation it was seen that the lower two-thirds of the omentum was twisted upon the upper third. After removal of the mass the patient was sufficiently recovered to permit of his leaving the hospital on the fourteenth day. The literature shows that such accidents have been much more common with women than men. It is also interesting to note that almost every patient has been afflicted by an inguinal hernia, which factor must, of course, have something to do with the trouble. The torsions have been at one point, at two points, or multiple. There have been as many as six twists at one point, and the direction has always been from right to left. The onset has been extremely acute always, but there have been no pathognomonic symptoms, and the diagnosis has not been made in a single reported case, prior to the operation.

The Technique of Operating Upon Large Hæmangiomas and Lymphangiomas.—MUELLER (*Beitraege zur Klinischen Chirurgie*, Band xxxvii, Heft 1 and 2).—This paper takes up simply the consideration of one sort of blunt enucleation of the tumor. The author has been surprised to note that this simple procedure appears to be little used, if indeed known to many. But still, as he later shows from his own observations, it is possible to remove, in this way, a large number of these growths, and that without hemorrhage of consequence. In fact, the author has done such operation without the necessity of making a single ligation, where he has simply been careful to keep strictly between the capsule of the tumor and the healthy tissue. Of course, the method is not so simple where there has been some attempt to remove the growth or to induce its shrinkage by injections, etc., for the reason that all of these procedures cause widespread adhesions. The feasibility of the author's procedure depends

upon the fact that the disease is usually confined to one sharply defined vascular region, hence it is possible that there be developed around the whole, a capsule which shall not of necessity be pierced by vessels at short distances from each other.

Mueller has done seventy-three operations by this method and none by any other, something which certainly proves the practicability of it. Of these, thirty-one were larger than a walnut.

The Results of Operations for Liberation of the Radial Nerve Following Fractures of the Humerus.—LOUNOIS ET LEJARS (*Revue de Chirurgie*, May, 1903).—The authors report a case which is especially interesting from a diagnostic standpoint, as well as from the fact that a complete recovery rewarded the efforts of the operator. In this case the etiology had been so neglected by a good observer that he was misled into making a diagnosis of sarcoma, when he felt the callus, and supposed in consequence that the paralysis was a "pressure symptom" pure and simple.

The patient broke his arm by trying to catch his weight and save himself from a sudden fall, the injury healing kindly under ordinary treatment without any unusual incident. After several months there appeared a vague sensation of pain, and soon there was wrist-drop in addition. An operation was decided upon, and the nerve found bound down in a callus, as might be expected. This was relieved and the wound healed by first intention; but it was six months before there was any return of movement, though from this time on the improvement was most rapid till the end of eight months, when all movements were possible in their old-time freedom and strength.

This operation was performed four months after the receipt of the injury, which in itself gave a better prognosis than if it had been postponed to a later time. The author makes one good suggestion, which is that the motor condition of the radial region should be explored daily while the arm is immobilized after such an injury. In sixty-eight similar operations there has been a positive result in fifty-eight cases, there being forty-one complete cures. The restitution of function is, however, always slow.

Inversion of the Vermiform Appendix and Its Relation to Intussusception.—ACKERMANN (*Beitraege zur Klinischen Chirurgie*, Band xxxvii, Heft 1, 2).—In an operation for this accident at the Rostock clinic, the appendix, completely inverted into the lumen of the gut, was found at the head of the column in very much the same relation to the trouble as one considers the diverticulum of Meckel when it is found under similar circumstances. The author reviews the twelve cases of this kind which have been found by him in the literature and comes to interesting practical conclusions. He thinks that one certain form of appendix is especially predisposed to undergo the change above mentioned, viz., the one with a thin wall and a lumen communicating very freely with the interior of the gut itself; it is of course more reasonable to suppose that the organ could be easily inverted under these circumstances. He thinks that certain results of inflammation of the organ may predispose to the condition just considered. The swollen, inverted appendix acts in the mechanics of intussusception, just like a polyp or other tumor of the intestinal wall, when such heads the column. Just the effect that this reasoning may have upon those who follow Baldwin's suggestion (inverting the uncut organ in appendicitis) it is interesting to observe. No one has reported intussusception following Baldwin's procedure, so it may be that the presence of the inverted appendix at the head of the column, as noted by Ackermann and others, is only an accidental and not an etiological factor.

The Surgical Treatment of Facial Paralysis by Nerve Anastomosis.—CUSHING (*Annals of Surgery*, May, 1903).—In May, 1902, Cushing sutured the distal portion of the facial nerve to the proximal end of the spinal accessory, and secured a perfect result in a case where the facial had been cut in two by a bullet. The injury had been inflicted some two months before, the missile having entered the skull at about the site of the mastoid process. After the two nerves had been fully exposed so that the necessary lengths could be determined, they were divided and the stump of the one sewn to the peripheral portion of the other with three strands of fine silk. Only the nerve sheathes were united, it may be added, and the wound healed by first intention. The author makes a few remarks upon the delicacy of the procedure, how the nerves must be carefully handled, how a rigid asepsis must be preserved, and how hæmostasis must be perfect; at the same time he is of the opinion, as are most other authors, that the sooner the operation is undertaken, just so much greater can be the patient's hopes of a favorable result.

The Treatment of Fistula in Ano.—STERNBERG (*Centralblatt fuer the gesamte Therapie*, April, 1903).—The simple sub-mucous and the sub-cutaneous fistulæ are to be treated in the old-fashioned way, viz., by incision and packing. However, if the trouble be in the ischio-rectal space and the fistulæ be multiple, then the surgeon is helpless unless he can follow up every single track and bring all of them into wide communication with the lumen of the intestine. A perfect result can be hoped for in a short time only after one has completely excised all the fistulous tracts and sewn up the resulting wounds; a severe procedure, but one that gives definite results. First the fistulæ are to be split in the old way, if possible, and then the tracks completely cut out; the author has had occasion to do this in a very large number of cases and with almost universally good results. He moves the bowels about the third or fourth day, and removes the stitches at the end of two weeks. For the latter the through-and-through variety are to be preferred.

The Treatment of Defects in the Tibia and Os Calcis.—BAYER (*Centralblatt fuer Chirurgie*, May 9, 1903).—This very ingenious plan is to be carried into effect after the cavity has been carefully cleansed and all projecting pieces of bone removed; when instead of packing the cavity, as was formerly the custom, the author recommends that it should be covered as far as possible with skin drawn from the wound edges by sutures, the same being tied over a gauze roll which is so fashioned as to fill the defect, and thus make its new skin covering lie flat.

As a matter of course, the duration of the convalescence can by this method be greatly shortened, in much the same manner that a skin graft curtails the healing of an ordinary granulating surface.

A Contribution to the Etiology of Carcinoma of the Œsophagus.—WOLF (*Muenchener Medizinische Wochenschrift*, May 5, 1903).—Here are related two cases with autopsy, in which it is vividly called to mind that any sort of chronic irritation may predispose to carcinoma formation. The cases in point are two in which spondylitis deformans existed, with pressure upon the œsophagus; the author taking it for granted that there was friction between the two surfaces every time the patients swallowed and thus a similar state of affairs to that produced by the rubbing of the pipe-stem upon the lower lip of the inveterate smoker. The autopsy in the first case disclosed as a cause of death a rupture into the right pleura with empyæma and beginning gangrene of the lung. The second patient died of asphyxia, the cancer having ulcerated through from the œsophagus into the lumen of the trachea.

Traumatic Tuberculous Peritonitis with Ileus.—LUECKE (*Berliner Klinische Wochenschrift*, May 4, 1903).—This extremely rare case is reported from the surgical clinic of Sonnenburg at Berlin. A twelve-year-old boy fell upon the ice and a comrade stumbled and fell across the little fellow's abdomen, with a result that he manifested serious stomach symptoms (vomiting, etc.) the same day and evening. Twelve days later, when he was sent into the clinic, his abdomen was greatly distended, temperature and pulse were high, and there were obstructive symptoms. Though the father denied a specific taint in the family, several symptoms were suspicious of a tuberculous peritonitis, viz., lack of peristalsis, lack of sensitiveness in the distended abdominal wall, the rapid emaciation of the patient, etc.

On the fifteenth day after the fall a laparotomy was performed and the entire peritoneum found studded with tubercles, as well as the retro-mesenteric nodes enlarged. Four hours later the child died in collapse and at the autopsy there was shown even more conclusively the connection between the accident and the general disease of the peritoneum, the idea being that the blow released tubercle bacilli which were lying dormant in the lymph nodes of the abdomen, and that these then infected the peritoneum. The appearance of the tubercles justifies the belief that they were no more than fifteen days old.

Diagnostic Value of Blood Pressure Determinations in the Diagnosis of Typhoid Perforations.—CRILE (*Journal of the American Medical Association*, May 9, 1903).—The mean systolic blood pressure in a large number of typhoid cases was determined to be 104 mm. for an average during the various weeks when there were no perforations. The mean pressure measured 20 mm. in twenty patients suffering with acute peritonitis. In five cases of typhoid where blood pressure rose and a perforation was diagnosed, four were confirmed by operation or autopsy, while the fifth was so typical as not to need either kind of proof in the author's mind.

The Course of the Fistulæ Which Complicate Appendicitis.—MUEHSAM (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band xi, Heft 2).—This article comes from a clinic which is especially noted for its appendicitis work, viz., that of Sonnenburg in Berlin. The author divides the fistulæ into those which arise without an operation and those which follow one. The author's observations have shown him that fistulæ which result from disease of an appendix which is never removed, recur until the organ is taken out, and that they then promptly heal. The danger is very slight that a fistula which has once formed between abscess and intestine, will be permanent. The same rule holds good for the vagina, provided the appendix has been removed. In the clinic there have been many pus cavities opened by this route, but never has a fistula remained. It is very different when the urinary bladder has been affected: here the fistula will persist, and, in addition, there is always the danger of an ascending infection being complicated by pyelonephritis. A post-operative fistula can result if the intestinal wall has not been properly sewn or if it be diseased (tuberculous), or if the wall of the intestine be injured at a distance from the appendix, or especially is all of this true if the little organ be not removed. Further, fistulæ result from the continued flow of pus from neighboring collections between the intestines. Fistulæ are to be prevented by care at the operation as well as by an after-treatment which protects the wall of the gut. As to treatment, one should wait a long time before operating at all, and then suture of the defect does little or no good, since the gut wall is friable; usually it must come to some sort of anastomosis or extensive intestinal operation.

An Epithelioma of the Tongue, Almost Twenty Years Later.—GUINARD (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 14).—The patient is a man of sixty-nine years who has at present a recurrent epithelioma of the tongue. He was operated upon eighteen years ago and this is his third recurrence. It is more than of passing interest in the family history to note that his father died of cancer of the stomach and that his mother's sister also succumbed to a like involvement of the uterus. A few months later there was a recurrence which was removed, after which the man spent eighteen years of perfect health. But a month ago a new ulcer made its appearance and illustrated the difficulties and uncertainties which beset the surgeon and the patient when cancer is to be treated.

Some Unusual Cases of Appendicitis.—WEIR (*Medical Record*, May 23, 1903).—The first case mentioned is one of strangulation of small intestine beneath a long appendix adherent at its outer extremity. The next was one evidently supposed to be a strangulated hernia, but on cutting down the sack was found empty, though behind it in the belly there was a typically inflamed appendix. He reports further a strangulated hernia with a gangrenous appendix, and explains the condition by saying that the organ has at best a poor blood supply, so it does not take much pressure to cut off enough more to cause gangrene. In one case an inflammatory tumor (?) marked the former site of an appendix; further he found one organ but half an inch long; saved a patient from general peritonitis by saline infusions; and removed a cancerous appendix after thirteen attacks of characteristic symptoms.

Investigations Concerning the Pathology and Treatment of Tuberculous Peritonitis.—KOEPPEN (*Archiv fuer Klinische Chirurgie*, Band lxix, Heft 4).—The author of this article is no nearer to solving the problem of the effect of a laparotomy on the disease, than have been the many others who thought and worked over the matter. One thing is true of the cases which have been treated in this manner, that is, that the exudate has disappeared permanently in all of those which have been permanently cured. However, it is not correct to judge the condition of the abdomen from the exudate alone, as is proved by the fact that some cases proceed as a dry peritonitis in which the exudate has been let out and has really remained away. It is interesting to note the effect that the high specific weight of the tubercle bacilli have upon the different phases of this study. In the first place it is very hard to find the germs in a smear made from the abdominal contents as they are exposed in an operation, for the reason that the heavy little bodies have fallen into the deepest recesses. It must be added, at the same time, that the disease is most pronounced in these localities and for the same reason. Why does not a constant reinfection of the peritoneum take place and thus preclude a possible cure of the malady. The author thinks it is because of a gradually developing immunity, which seems plausible. But the exudate may remain in full quantity and not be absorbed, though the peritoneum has become immune, if the organism has not the strength to overcome the toxins; then only in those cases where the immunization is complete, does the exudate fail to collect, though an operation be performed and the same let out.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

A Preliminary Note on Some Experiments to Determine Whether Alcohol Does Good in Infections by Increasing the Bacteriolytic Power of the Blood.—H. A. HARE (*The Therapeutic Gazette*, 1903, May 15).—Notwithstanding some differences of opinion, it is not to be denied that physicians of experience the world over employ alcohol to combat serious infections, and obtain from its use results which cause them to rely upon it when other remedies fail. This is notably the case in infectious diseases of a febrile type, and peculiarly so in two conditions depending largely upon bacteriemia: septicemia or the popular "blood poisoning" and typhoid fever. Most experimental investigators, however, have concluded that alcohol is always a depressant poison to protoplasm in all doses, and that it never acts as a stimulant in the true sense. Clinicians, nevertheless, have continued to use it with an implicit faith based on bed-side experience, shaken a little, perhaps, by the statement of the laboratory worker.

It is incredible that thousands of skillful men should be in error as to the value of alcohol in therapeutics. Some explanation must exist. It occurred to the author that the power for good of alcohol might lie in an effect of the drug upon bacteriolysis. Several series of experiments were carried through to test the existence of such an effect. Subjects were chosen who had some chronic disease, such as peritoneal tuberculosis or subacute uremia, in which the patient's condition did not vary perceptibly from day to day.

The method of experimentation so far as the bacteriologic research was concerned was as follows:

The clear blood-serum was removed from the clot by means of a sterile graduated pipette, and portions of 0.1, 0.3 and 0.5 cubic centimeter transferred directly to small test tubes, in which had been placed enough normal salt solution to make one cubic centimeter, and also three drops of bouillon. These tubes were then inoculated with cultures of *baecillus coli communis*, in such a manner that each tube received about the same number of micro-organisms. A control tube containing one cubic centimeter of salt solution and three drops of bouillon, but no blood, was similarly inoculated. The tubes were then placed in an incubator at 37° C., and at intervals of one, three, five and twenty-four hours, series of plates were made, using three loopfuls for each. These were counted when from eighteen to twenty-four hours old. The number of colonies on these plates indicated the number of bacteria in each tube, and as the tubes differed only in the amount of serum they contained, depended upon the effect of the blood serum upon the growth of the bacilli.

Such a series of tests was made upon the blood first before the administration of alcohol, then after the administration of alcohol in doses varying from three to five ounces daily, then two and ten days after omitting the alcohol and finally after again giving alcohol for a week. The results were very striking. Before the administration of alcohol the blood had a very slight inhibitory action upon the growth of *coli bacilli*, after giving three ounces of alcohol daily for a week, the growth of the bacilli was much impeded. Larger doses (five to six ounces daily) gave the blood a still greater bacteriolytic power: the tubes, inoculated as described above, remained sterile. This condition was still present two days after ceasing the administration of alcohol, but had disappeared after ten days. After again giving alcohol the bacteriolytic power reappeared. From these results it may be concluded that the use of alcohol seems to have the power of combating infectious diseases by increasing the bacteria-destroying

power of the blood. Another series of experiments, for which the reader must be referred to the original article, while too few and too contradictory to determine the question, seem to indicate that this effect is produced by an increase in the complement.

The entire matter, while of extreme interest and importance, is still very dark and requires confirmation. The fact that the writer entitles his paper a preliminary note indicates that he intends to continue the investigation.

On Intestinal Mucous Colic (Colica Mucosa) and Its Treatment.—PROF. C. VON NOORDEN and DR. C. DAPPER (*Samml. Klin. Abhandl.*, Heft. 3; *ref. in Centralbl. f. d. ges. Ther.*, 1903, Heft. 4).—The anatomical material at hand concerning colica mucosa, though rather scant, shows that on the one hand it may be associated with true enteritis, on the other may be unaccompanied by any anatomical changes in the intestinal mucosa. It is the latter that are of special importance for the pathogenesis and therapy of this affection.

It is the tendency of recent investigators no longer to differentiate closely between membranous enteritis and mucous colic, but rather to regard the former as an inflammatory complication involving the secretory neurosis, termed colica mucosa.

Most cases of colica mucosa are observed between the ages of 20 and 45, far more frequently in women than in men. The disease is usually preceded by various digestive disturbances, partly gastric in nature, such as nervous dyspepsia and superacidity, partly a tendency to dysentery, occasionally with the unusual symptoms of nervous diarrhea. Without exception almost has there been, previous to the development of colica mucosa, a persistent obstipation for weeks and months, accompanied frequently by the passage of mucous. In a few cases there is a history of organic intestinal disease (appendicitis, dysentery). Frequently also are present chronic affections of the genitalia or splachnoptosis. In all cases of the author the patients had for some time, and for various reasons, been put upon a very simple diet, as in cases of ulcer or catarrh of the stomach, cholelithiasis, etc., and in consequence thereof had suffered appreciably in their nutrition, having lost often as much as twenty and thirty pounds. Invariably these were accompanying symptoms of neurasthenia or hysteria. Previous to the outbreak of the trouble there is often mucous admixed with the hard fecal matter and painful sensations in the abdomen. The genuine attack now follows, consisting of the passage of mucous, with little or no fecal matter, from the bowels, either without pain or accompanied by more or less severe colicky pains. The attack may be completed by the expulsion of the mucous or may continue for several hours or days, often associated with diarrhea. After the attack is over there is an interval of a week, or even a month, in which the patient is troubled by more or less marked digestive disturbances.

The mucous masses expelled are either loose, glairy, almost dissolving, or hard, dry and resembling animal tissue. Between these two conditions there are various gradations. The soft mucous masses may be considered as fresh, the harder ones as due to inspissation. As in typical cases, often no mucous is passed for a long time and the large quantities of old mucous are suddenly expelled, it is to be supposed that the old adherent masses are freed by the mechanical stimulus of the attack itself. The anatomical findings likewise show that the mucous is very firmly attached to the mucous membrane. By means of powerful intestinal contractions and the secretion of new mucous masses under the old, the latter is raised up from the mucous membrane and discharged. Apparently the adherent old mucous itself gives the impetus to the outbreak of the paroxysm.

The spastic intestinal contractions often attain unusual severity, the pains

are accompanied by nausea and vomiting, so that the picture may resemble intestinal obstruction. In mild cases there is only occasional expulsion of mucous without particular pains, depending on the character of the mucous discharged and the susceptibility of the individual affected. The authors are of the opinion that mucous colic only arises as a sequence to more or less marked constipation, inasmuch as the absorption of water in this condition was not confined merely to the feces, but also to the secreted mucous masses. With this inspissation the mucous loses its elasticity and motility, its stickiness increases. When this has reached a certain point, the attack takes place. Besides this, nervous influences are doubtless a factor in the attack. Since but a small percentage of the cases of constipation, even the most persistent, lead to colica mucosa, one cannot ascribe the increased mucous productions merely to the constipation. One must assume a special anomaly of the nervous apparatus governing the mucous secretion of the large intestine, hence a secretion neurosis, unless indeed the hypersecretion be due to inflammatory disease. Against the latter, however, speak both the anatomical findings and clinical experience.

The treatment is to be directed symptomatically against the attacks and according to the etiology against the constipation and the general neurotic condition. During the attack rest in bed tends above all else to quiet the intestines, particularly if accompanied by hot abdominal compresses. Laxatives are not advisable, rather narcotics, either in the form of a hypodermic of morphine or as suppositories, such as *extr. opii.*, *extr. belladonnæ*, aa 0.04, which almost invariably quiet the attack of pain. The next indication is to expel the mucous masses. Irrigations with water at body temperature yield without pain large quantities of mucous. No irritating substances, such as salt, glycerine or soap, should however be added, as these give rise to a true paroxysm of pain and spasm of the intestine, preventing the entrance of the water to higher portions of the intestinal tract. It is also noteworthy that the first enema only brings forth mucous, whereas higher up where the water, as a result of the spastic contraction, did not penetrate lie hard scybalous masses that must by all means be removed. Therefore it is well to give one to two hours after the water irrigation a high enema of oil (300 to 500 cm.) which should be retained as long as possible. The patients usually hereupon fall asleep under the influence of the narcotic. On waking up, oil, mucous and feces are emptied free of pain. The attack is overcome.

The etiological treatment must be directed primarily to a restoration of intestinal activity, since by regulating this every case of mucous colic can be rapidly cured. Although the motor functions of the intestines can be improved by sparing them as much as possible through non-irritating, simple diet, with little residue, and systematic oil enemata, relapses seem to be very frequent in this form of treatment. For this reason v. Noorden has for many years given patients with mucous colic a very coarse and indigestible nourishment containing much residue, particularly such with a large proportion of cellulose. This undergoes slow decomposition in the intestines partly through bacterial action. The gases produced by this decomposition prevent the formation of hard fecal concretions. The stool in cases of a diet rich in cellulose is always soft, wherefore just this form of nutrition is indicated in cases of colica mucosa. With this diet there is no need for supplementary measures such as oil enemata, etc. This regimen is aided, moreover, by the use of certain mineral waters, such as Kissingen, Hamburg and other sources of sodium chloride. Karlsbad and other alkaline waters, however, should be avoided. A further help is massage of the large intestine, particularly the sigmoid flexure, which is nevertheless only of avail if we give a nourishment rich in residue, and is contraindicated where rigid dietetic measures are adopted.

The menu should consist of the usual articles of diet and besides this, break-fast foods, vegetables containing considerable cellulose, coarse-skinned and

small-kerneled fruits, bacon, fat, particularly however large quantities of coarse graham bread. Patients are kept on this diet three to five weeks. After the bowels have been thus regulated, one can return to the customary bill of fare. Success is only then assured when fecal formation and expulsion remains normal for some time. Then the mucous colic will likewise not return.

The general nutrition must likewise be considered. Since one usually deals with nervous individuals in a low state of nutrition for whom a Weir-Mitchell cure is indicated, an improvement of the general health is a condition *sine qua non* for permanent cure. It is therefore the object of every dietary method to attain an increase in the patient's weight, which is best attained by increasing greatly the quantity of fat given. An increase of 6-16 kg., an average of 10 kg., was always attained in three to six weeks. During the first four weeks all hydrotherapeutic or electric treatment should be avoided absolutely.

In 79 per cent. of the cases the cures were complete.

Strychnin and Persodin.—PROF. G. BUFALINI (*Archivio di Farmacologia Sperimentale*, II, II; ref. in *Centr. f. d. ges. Ther.*, Vol. 21, H. 4).—But a short time ago several cases of tetanus were reported cured by the injection of a 5 per cent. solution of sodium persulphate. This was thought to be accomplished by neutralizing the tetanus toxin by means of persodin. The author was thereby induced to publish several tests he had made concerning the antitoxic action of persodin in experimental strychnine poisoning. The thought that lay at the root of his investigations depended on the strong oxidizing power of persodin, which could be ascribed to the instability of persulfuric acid: $S_2O_8H_2 + H_2O = 2H_2SO_4 + O$.

Persodin is a mixture of sodium and ammonium-persulfate, prepared according to a special method by A. and L. Lumiere, and it was only to be expected that this remedy would prove a chemical antidote to strychnia, inasmuch as it converts strychnine to oxystrychnine or strychnine acid, both of which are far less poisonous than strychnine itself. It is also possible that the elimination of the poison occurs not only through oxidation, but also through the formation of persulphate of strychnia, which is only slightly soluble. As a matter of fact, after strychnine has been treated with persodin, the well-known characteristic strychnine reaction by means of nitric acid and potash can no longer be obtained. Experiments were made on rabbits with doses of strychnia always in excess of the fatal amount (0.0006 per kilogram). The solution of persodin was injected either before or afterwards, in the vicinity or distant from the point where the strychnia had been applied. The experiments showed that persodin had a favorable influence on the course of the poisoning both before and after the injection of strychnine, even where the dose reached double the fatal quantity. If a solution of persodin and strychnine be injected into the peritoneal cavity, either independently or at the same time, the symptoms of strychnine poisoning either disappear, if they have already developed, or may not be manifest at all. If persodin is previously neutralized, it cannot retard strychnine poisoning. Since we cannot here be dealing with a physiological antidote, for persodin possesses no sedative powers either on the spinal cord or on the sensory nerve endings, the action must be ascribed to a chemical neutralization. This is confirmed by the observation that even if seven times the fatal dose of strychnine be mixed with persodin, the injection causes no symptoms of the action of strychnine. Hence the antitoxic action of persodin is stronger if persodin and strychnine are introduced into the body in the same manner than if they do not act upon one another except by means of the circulation. At any rate, persodin can be regarded as an effective antidote against strychnine.

The Therapeutic Use of Blue Electric Light.—DR. DANILOW (*Klin. Ther. Wochenschr.*, 1902, No. 45, ref. in *Centr. f. d. ges. Ther.*, April, 1903).—The author

reports a series of cases treated successfully with blue electric light, which are calculated to make this procedure popular. In one patient, who had suffered continual pain in both shoulder-joints, exacerbating with particular severity during the night, complete cure was obtained in nine treatments. Four treatments sufficed in an old neuralgia of two years' duration in both shoulder-joints. A sciatica that had lasted four years was overcome in seven applications. Another case of sciatica that had succeeded an attack of influenza was fully cured in the fifth sitting. On trigeminal neuralgia also the effect of this remedy was striking. In one case with severe constant pain in the region of the left mandibular joint, radiating along the left half of the lower jaw and the left temporal region and in which the attacks took on fully the character of a malarial paroxysm in their origin and appearance, a cure was effected in a few sittings together with the administration of quinine. Blue electric light is also successfully used in bronchial asthma of nervous origin. The author reports two cases in which the illumination of the larynx and trachea externally, together with the anterior surface of the chest and the accessible portions of the throat with the blue light of an ordinary lamp for a period of twenty minutes invariably aborted the attack.

Stability of Diphtheria Antitoxin.—DR. CHIARDINI (*Merck's Berichte*, 1903, p. 150).—The author has made a series of investigations in regard to the keeping qualities of diphtheria antitoxin. He finds that the preparation becomes inert after four years, its curative power is considerably diminished after three years; it remains intact for two years; mere turbidity does not impair its activity; the addition of antiseptics does not injure the article, nor do ordinary changes of light and temperature.

Lactose Therapeutically.—DR. HUCHARD (*Merck's Berichte*, 1903, p. 105).—Lactose, combined with calcined magnesia, is an excellent laxative, antacid and diuretic. The admixture of milk-sugar renders the magnesia more soluble in water, disguises its taste and enhances its laxative action. The formula Dr. H. uses reads:

R	Lactose	60 gm.
	Heavy calc. magnesia	90 gm.

A dessertspoonful to a tablespoonful daily, in half glass of water.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

On the Mechanism of Absorption of Granular Materials from the Peritoneum.—MCCALLUM (*Bulletin Johns Hopkins Hospital*, May, 1903).—This paper is the more important as its results, although new, nevertheless have been foreseen by a number of investigators. Lately McCallum has shown that the lymphatics within the tissues form everywhere a perfectly closed system, and that the old conception of a direct communication with tissue-spaces cannot be confirmed by any histologic picture. In this paper he takes up the important question of the absorption of granular material by serous surfaces, in particular the peritoneum. While the text-books still continue to declare the presence of stomata as normally existing openings between the endothelial cells, McCallum shows that they do not exist, and that the peritoneal epithelium forms everywhere a uniform membrane without any lacunæ or clefts between the cells. He studied

the absorption of granules, especially from the diaphragmatic portion, and could distinctly demonstrate that the epithelium of the peritoneum and the endothelium of the adjoining lymphatics are in no direct connection with each other. Granular material passes between the cells through the "Kittsubstanz," enters into the spaces between the underlying connective tissue cells, and finally penetrates into the lymphatics in the same way in which it passed through the peritoneum. Similarly leucocytes and macrophagic cells make their way, and thus assist in the transportation of the material. That these cells are not the *conditio sine qua non* for it, is proved by the fact that during procedures keeping away the migrating cells the absorption of the material occurs just as well and to the same distance as under normal conditions. The many interesting points and sidelights of this fascinating paper must be enjoyed in the original.

Does a Primary Pathologic Condition of the Epithelium Exist that Leads to Tumor-Formation?—G. HAUSER (*Ziegler's Beiträge zur Pathol. Anatomie*, Vol. 33, Heft 1, 1903.)—The writer describes some solid intestinal polypi in which the microscopic examination distinctly has shown that the normal epithelium directly changes into carcinomatous tissue. In this case there is no chance for the occurrence of the law of Ribbert; that means that epithelium, to become carcinomatous, must be previously torn from its normal situation and transplanted into connective tissue. Similar observations have certainly been made by various observers on the same material. It is interesting to note that an observer so careful and conservative as Hauser does not hesitate to express the opinion; there are distinct morphological differences between normal and carcinomatous epithelium. They are certainly there, and, although it may be under circumstances difficult to definitely describe them, their appearance is so characteristic that it alone will allow of a true interpretation of the nature of a suspected tissue. This does not only hold good for the new formations studied by Hauser, but also for other epithelia; for instance, that of the uterus.

About the Possibility of Immunizing Guinea-Pigs Against Tuberculosis.—E. LEVY (*Centralbl. fuer Bacteriologie*, Band 33, No. 9, 1903.)—The communication of the author on this subject is of great importance in view of the fact that, following the lines of Behring's experience, it seems that our fight against tuberculosis will resolve itself in the finding of a suitable method of vaccination against it. Levy found by experimentation that virulent tubercle bacilli emulsified in glycerin gradually lost their virulence. While after one day little of the virulence was lost, they caused after six days hardly any symptoms in guinea-pigs; therefore, guinea-pigs were inoculated successively with cultures that had been kept in glycerin for six, five, four, three and two days, injections which the animals tolerated without any consequences. If, then, such an animal was inoculated with the one-day glycerin culture, that in control-animals invariably caused death from generalized tuberculosis in about the same time as the fresh culture, only a local induration and abscess-formation ensued, which soon healed. The autopsy of these animals, held after they had been kept for a long time after the healing of the abscess, showed not a trace of tuberculosis anywhere. If we remember that the species of animals chosen for these experiments is the most susceptible one known to us, to bovine as well as human tubercle bacilli, we have a right to hope that it will be only a question of time before a method suitable for the species man will be elaborated. The paper of Levy corroborates independently all of the conclusions that Behring's latest publications involved.

On the Evidence of Nuclear Division of Certain Cell-Inclusions in Cancerous Epithelium.—H. R. GAYLORD (*Buffalo Medical Journal*, May, 1903).—The man who presented us with the discovery that carcinoma is a disease that can be

transmitted by germs contained in the blood of cancer patients, who promised to report about experiments that proved the producibility of carcinoma by his parasites, has come down now to the demonstration of certain formations in his so-called parasites that suggest that in them there is taking place a nuclear division, mitotic or amitotic, that does not matter. After giving a review of the literature and copying many illustrations of other authors, Harvey R. Gaylord adduces as evidence for nuclear division in cancer parasites certain juxtapositions and arrangements of the cell-inclusions that in a tissue would look as the result of successive cell divisions. The parasite has been reduced now to a nucleus, and its protoplasm is eagerly sought for in the protoplasma of the host cell. The paper serves one good purpose—that is, to demonstrate to what degree of absurdity preconceived ideas may lead in the interpretation of things for which hundreds of other explanations are possible. The ludicrous referring to a myxomycetous organism—an organism about which the author knows as little as *Podwyssozki*—stamps this form of hunt for parasites in carcinoma as a farce.

Experimental Hemoglobinuria in a Case of Blackwater Fever.—ROSS and LOW (*Journal of Trop. Medicine*, May 1, 1903) report the case of a man about whom inquiries were made as to the possibility of employing him further in a certain position in West Africa. He had been there for about one year, and had had several attacks of malaria. The last time, before his return, after a dose of ten grains, he had an attack of blackwater fever. Returned, he continued the prophylactic use of ten grains of the substance, and had several blackwater fever attacks. Taken to the hospital, Ross made a careful examination of his blood; found no parasites, but a percentage relation of the leucocytes as seen after malaria. As an experiment to test his assertion that quinine caused blackwater fever with him, after some days ten grains were given. After four hours the attack set in in a typical manner, and lasted for about six hours. Blood examination before and after the attack showed that the corpuscles had been reduced during this time 635,000 to the cubic millimetre. During no time were any plasmodia or pigment found. The experiment is a complete confirmation of Koch's observations, and, in addition, it comes from England.

Pyronin-Methylgreen, a Brilliant Double-Stain for Cells and Bacteria.—W. F. WHITNEY (*Boston Medical and Surgical Journal*, May 7, 1903) writes a short recommendation of this stain. It is surprising how slowly important improvements of technique and methods gain a place with us. The pyronin stain in combination with methylgreen is one of the most valuable additions to our armamentarium, and for certain purposes cannot be dispensed with altogether. There is no stain that will differentiate Unna's granoplasma more definitely than pyronin. The value, however, does not lie in the differentiation of cells in smear specimens, as Whitney says. This can be done and ought to be done always by the Eosine-Azur method, that is superior to any other method. The results with the latter are much more uniform and reliable than with pyronin. But the value of the pyronin lies in the fact that by it we are able to differentiate plasma cells and granoplasma in sections with an elegance and definiteness that is never reached by the most perfect polychrome specimens of Unna. Unna himself has suggested this method, but it seems to have escaped the author of this paper.

Chorionepithelioma-like Proliferations in the Male.—E. STEINHAUS (*Wiener Mediz. Wochenschrift*, No. 17, 1903) describes a case of tumor of the testicle that contained malignant proliferations in no way differentiable from the tissues of chorionepitheliomata. The first case of this kind was reported in England in 1897, but not recognized. Since then several other cases have become known

that, in a classic paper, were dealt with by Schlagenhauser. He himself added a new case to the list. The tumor of Steinhaus could, according to our modern views, only be called an embryoma. Omitting theoretic considerations, therefore, we must today, in discussing chorionepithelioma, not emphasize the question of pregnancy, but accentuate the line of thought by the sentence: without embryo or embryoma no chorionepithelioma. Another very important consequence of these investigations is the final and conclusive end of the heated discussion about the origin of the syncytium, which certainly must be fetal.

About Formation and Retrogressive Changes in Gouty Tophi.—RINDFLEISCH (*Virchow's Archiv*, Vol. 171, Heft 3).—The old and venerable master, Eduard Rindfleisch, expatiates in this article in a remarkably objective way on his own case of gout. Of interest are his investigations of a tophus that was extirpated from his olecranon. He comes to the conclusion that the well-known giant cells found at the boundary line between the urate deposit and the inflammatory connective tissue formation around it are phagocytes, to which, under favorable circumstances, a disintegration and disappearance of the tophi can be ascribed.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Vaginal Panhysterectomy Without Anesthesia.—GRADENWITZ (*Centralbl. f. Gyn.*, May 2, 1903).—To the many generally recognized advantages of the vaginal route a new one has been added, one that certainly is of extreme practical importance. Gradenwitz shows that the uterus may be extirpated through the vagina without the use of an anesthetic. He reports the histories of three cases.

1. Patient is thirty-four years old, is very anemic and in a well-advanced stage of consumption. Operation lasts twenty-five minutes. Patient experiences pain only when the following four ligatures are placed: on the lowest portions of both broad ligaments, on the uterine end of the right tube and on the left infundibulo-pelvic ligament. Recovery undisturbed.

2. Patient is sixty nine years old; cannot be anesthetized on account of a large struma. Diagnosis: Total prolapse of uterus. Operation: Hysterectomy, anterior colporrhaphy and perineorrhaphy. Uneventful recovery.

3. Patient is seventy years old. She is anemic, has a myodegeneration of the heart and is in extremely poor general condition. Panhysterectomy was performed on account of a beginning carcinoma of the cervical portion. In this case the ligaments were anesthetized with Schleich's solution and in this way the operation rendered entirely free from pain. Exitus occurred two and one-half hours after the operation.

A Study of the Degenerations and Complications of Fibroid Tumors of the Uterus From the Standpoint of Treatment of These Growths.—CH. P. NOBLE (*American Gynecology*, April, 1903).—Professor Martin of Berlin made some time ago the statement that while fibromyoma of the uterus belongs to the benign tumors from its histological character, it must be classed among the malignant new-growths, considering its clinical features. In 1901 Noble read a paper on the degenerations and complications of myomata before the British Gynecological Society that excited a good deal of interest among the gynecologists of the world. It stimulated the publications of the noteworthy papers on the same question by Cullingworth and Frederick, both writers concurring in Noble's view that our

attitude as regards the treatment of myomata should become a more active one. In this new publication Noble takes the 258 cases of his own observation as a basis for a very careful analysis and draws his final conclusions from a total of 688 cases of fibromyomata in the hands of four surgeons. This place will not permit of giving in detail the figures of the strikingly high percentage of complications of fibroma of the uterus with appendicitis, hydrosalpinx, ovarian cysts, etc., or of the great number of cases in which necrosis or malignant degenerations have occurred. It may suffice to state explicitly that the author's conclusions, being apparently very radical, are based upon indisputable facts. In his belief death will result in about one-third of all myomata of the uterus if not submitted to operation. In more than one-fourth the result will be chronic invalidism. The percentage of those cases that are not incommoded to a noteworthy degree is very small. The disappearance of fibromata during the menopause is merely one of the curiosities in the history of these growths. To expect a disappearance is entirely unwarranted. Early operation in the case of young women having one fibroid or a number of small ones, affords the truest opportunity for conservatism, by curing these women of their disease and at the same time retaining their organs of reproduction. The attitude of the text-books should be reversed and the rule of practice should be to remove all fibroids which come under observation, unless in a particular case there seems to be a good reason for temporizing, due either to the small size of the tumor, or to the advanced age, or to the general health of the patient.

Nourishment by Ovarian Cystic Fluid.—MANDILLON (*Soc. de Med. et de Chir. de Bordeaux*, May, 1902; *rev. Brit. Med. Journ.*, February 7, 1903).—The author believes that ovarian fluid may feed a patient by absorption. A patient under his observation had an ovarian cyst containing about eight gallons of fluid. Suddenly the patient was attacked with stricture of the esophagus, which was due to a new growth; henceforward no food could be taken by the mouth. She lived forty days without food. When she died no fluid remained in the cyst.

Quintuplets.—SATO (*Sei-I-Kwai Medic. Journ.*, 1902, No. 3; *rev. Amer. Journ. of Med. Science*, January, 1903).—The mother of the quintuplets was a multipara, aged thirty-seven. Parturition took place at about the eighth month of pregnancy. Labor proceeded spontaneously. First child, boy, was delivered covered with the membranes; four minutes afterward the second child, a girl, was delivered; five minutes later the third child, a boy, was born, followed by a common placenta for the first and second child; after another five minutes the fourth child, a girl, was delivered by the feet, and another placenta for the third and fourth child was expelled. It was then supposed that all the children had been delivered. On examining the abdomen a fetal head was felt above the navel, and upon gentle pressure the fifth child, a boy, was brought down and delivered. A single placenta for this fifth child was shortly afterward discharged. There was a moderate hemorrhage which ceased upon tamponing and compressing the uterus. The first placenta weighed 666 grammes, the second 685, and the third 277. The weight of the children varied from 111 grammes to 1555. The children soon succumbed.

Four Fetal Malformations in One Family.—A. I. ESSLEMONT (*Brit. Med. Journ.*, February 7, 1903) records the following history of four malformed babies born by the same mother:

Woman of twenty-four years, healthy, the wife of a collier, married six years. In that time she had five full term children. 1. Male, born with large spina bifida in lumbo-sacral region. 2. Male, free from any abnormality. 3. Male, apparently healthy, but with marked phimosis and complete occlusion of

the preputial orifice. On splitting the prepuce there was found a congenital stenosis of the urethra. 4. Female with an occipito meningocele about the size of a small orange. 5. An encephalic monster.

There is no history of syphilis or falls or blows. The patient tells that her mother had a child born "with the back broken."

A Kidney in the Umbilical Cord.—G. M. HORTON (*Northwest Medicine*, April, 1903; *rev. Americ. Med.*, May 9, 1903).—A primipara was delivered of a male child weighing nine pounds. A tumor of the size of a hen's egg was present in the umbilical cord just outside the abdominal cavity. The cord was ligated beyond this. Then the layer covering the tumor, which was supposed to be a blood clot, was cut with a pair of scissors, the tumor itself, which proved to be a kidney, being wounded by this procedure. The wound in the kidney was closed with two catgut sutures and an attempt made to replace the organ in the abdominal cavity. The umbilical opening being too small it was dilated with artery forceps until the kidney was admitted. Six catgut sutures were then placed to close the ring. The child was afterward doing well.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Chronic Splenomegaly in Early Hereditary Syphilis and Its Diagnostic Importance.—MARFAN (*Rev. Mens des Mal. de l'Enf.*, May, 1903) believes that in the first years of life syphilis is the most frequent cause of chronic splenic hypertrophy. The syphilitic splenomegaly of nurslings is nearly always accompanied by anemia, sometimes mild, sometimes severe. In the latter case it may take the form of pseudo-leukemic splenic anemia. Very often there is associated with the splenomegaly a certain amount of hepatic enlargement, and more or less polyadenitis.

In some cases of syphilis hereditaria precox, these may be the only signs and symptoms of the condition, and this variety can be designated as the pseudo-leukemic form of hereditary syphilis.

The finding of a markedly enlarged spleen has thus a great value for the diagnosis of hereditary syphilis, and the enlarged spleen should always be looked for. The co-existence of splenomegaly and rickets does not permit the exclusion of hereditary syphilis from the diagnosis, because in two cases out of three with such co-existence, signs of syphilis, probable or certain, can be found if search be made for them.

Similarly, when splenomegaly co-exists with the symptom complex of pseudo-leukemic splenic anemia, the signs of syphilis will be found in 50 per cent. of the cases.

Serum-Therapy in Diphtheria.—COMBY (*Archives de Med. des Enfants*, May, 1903) gives an exhaustive review of the present status of the antitoxin treatment of diphtheria.

The dose of antitoxin should be proportionate to the age of the case. Children under two years should receive an average dosage of 2000 units; children older than this, 4000 units. For infants under six months 1000 units will ordinarily suffice. In cases of grave diphtheria or cases coming under observation late, and in cases of laryngeal diphtheria, these doses should be doubled or tripled and repeated in twenty-four hours, if necessary. In some cases very

large dosage is necessary—up to 20,000 units. The serum exercises a destructive effect on the false membrane, and this within thirty-six to forty-eight hours. At the same time it prevents the spread of the process, saves the larynx if not already affected, and delays or prevents the necessity for intubation and tracheotomy, or renders their results more favorable. The local effects of antitoxin are manifested on false membrane wherever situated—eye, nose, vulva, skin, etc.

Its systemic effects are demonstrated by diminution of fever, and by improvement in the general condition. It causes a temporary increase in the number of red cells and a temporary diminution of the white, but these changes are ephemeral.

Serum should be injected in suspicious cases, without waiting for the results of bacteriological examination. "It is better to make a hundred needless injections rather than one too late."

Whether the diphtheria is benign or severe, pure or a mixed infection, the indication to give a good dose of antitoxin in every case without delay, is absolute. It should be used in all forms of diphtheria, and for any manifestation. It should even be injected in the later manifestations of the disease (paralysis) if it has not been used previously in the case. So far as contraindications are concerned, in severe diphtheria the author recognizes none. These cases should be injected without delay at all hazards. For mild cases the presence of manifest tuberculosis affords a contraindication to the use of serum, because the injection of the serum in these cases is followed by a marked febrile reaction, possibly indicating an irritation of tubercular foci.

Diphtheritic albuminuria is no contraindication to the use of serum. But albuminuria dependent upon chronic Bright's may be, because the antitoxin is doubtless a renal irritant, and may in such cases provoke an uremic attack. Under these circumstances the serum should be used carefully and in small doses.

With reference to the results of serum therapy, it may be safely affirmed that it has reduced the mortality from diphtheria by three-quarters. In pre-antitoxin days, fifty children out of one hundred with diphtheria died, now the mortality has fallen to twelve to fifteen per cent. The mortality increases with delay in the administration of the serum. With administration of antitoxin on the first day the mortality is *nil*, in cases where its exhibition is delayed to the fourth or fifth day, it runs up to fifteen to twenty per cent.

Prophylactically, the serum is of decided value injected into children who have been exposed to contagion. The immunity conferred is only temporary, not exceeding three to four weeks. Where diphtheria has appeared in schools, hospitals, etc., the mortality of promptly immunized children has been less than one per cent., while that of non-immunized children has equaled ten per cent.

Comby gives all patients entering his whooping-cough, scarlet fever and measles wards a preventive inoculation. This practice has been successful in keeping diphtheria out of these wards.

With reference to bad results of antitoxin, the author denies in the first place, that the serum produces albuminuria very often. This symptom is usually due to the diphtheria and not to the antitoxin.

Paralyses are more common after antitoxin than they were formerly, because many severe cases which, under any other treatment would have died, have been saved. The proportion of late complications arising from these severe cases has thus necessarily become larger. According to Comby, the frequency of these paralyses is only another proof of the value of the serum.

The real "accidents" of the serum are the various exanthems which follow its use, in sixteen per cent. of the cases observed by the author.

These exanthems are due to the introduction of the serum (an animal serum of different species), not to the antitoxic properties. They may appear early or late, even later than fourteen days after the injection. They may be ac-

accompanied by fever. It seems impossible to prevent them at this time, or to prevent the myalgias, joint pains, or slight albuminuria that sometimes supervene. But, inasmuch as none of these accidents are of any real moment, they should never prevent any one from using the serum which is doubtless a sovereign remedy for diphtheria.

Suicide in Children.—MAPES (*Medical Age*, April 25, 1903) calls attention to the increasing frequency of suicide in children. After excluding the ordinary causes of suicide in adult life, such as temporary mental aberration, marital, domestic or financial difficulties, illness, religious excitement, etc. (which, according to the author, are not determining causes in childhood), Mapes concludes that the actual causes are as follows: (1) Suggestion or example, especially as the result of lurid newspaper accounts of suicides; (2) grief, anger or desire for revenge, because of real or imaginary injury, such as punishment or reprimand by parent or teacher; (3) jealousy, envy or humiliation.

He believes that the daily press is the real determining influence in many cases, thinking that the glaring accounts published in all possible detail, with emphasis on all minutiae have a most pernicious influence on the mind of the child.

He reports several cases of suicide in children where the act was prompted by sudden anger or grief, and where the method used showed conclusively the effects of reading the detailed accounts of similar cases to be found in nearly all newspapers today.

The Occurrence and Mortality of Typhoid Fever in Infants and Children.—KOPLIK (*Archives of Pediatrics*, May, 1903) calls attention to the fact, which is becoming more and more recognized, that typhoid does occur in the later stages of infancy. He believes that the mortality in cases under two years of age is larger than is commonly appreciated.

Attention is called to the series of cases collected by Griffith, and to that of Marfan. In both of these the mortality ran up to fifty per cent. In childhood the mortality from typhoid is much lower, though the incidence is much greater than in infancy.

Thus he has found three series of cases, collectively numbering 190 cases, in which there was no mortality. On the other hand, Henoch, in 381 consecutive cases, had a mortality of thirteen per cent; Ashby and Wright, in 592 cases, eight per cent.; Comby, in 250 cases, seven per cent. Holt took 2,603 cases of twelve different observers and found a mortality of five and four-tenths per cent. It is evident that in studying the question the varying severity of different epidemics must be borne in mind. In the author's own series, in some years the mortality did not exceed three per cent., in other years it ran up to ten per cent.

The dictum is true of children as well as of adults, that the mildest cases may suddenly show the most severe complications. The author is, therefore, not inclined to believe that typhoid is such a mild disease in childhood as it has been supposed to be. Taking all factors into consideration, he thinks the mortality at this time of life is about as great as during adult life.

The causes of death are almost the same in childhood as in later life. Toxemia is the most frequent cause of death, then follow hemorrhage, pneumonia and perforation, the latter complication not being uncommon in the typhoid of childhood.

Post-Diphtheritic Paralysis Affecting the General Nervous System.—PETER (*Pediatrics*, April, 1903) believes that the frequency of diphtheritic paralysis is in direct proportion to the severity of the infection, though at times severe palsy may follow a mild intoxication. Early childhood furnishes the greatest number of cases. The proportion of cases showing paralysis has been variously esti-

mated at from ten to thirty per cent. In 1,316 cases reported by Myers, 275 (twenty-one per cent.) were followed by palsy.

The cause of the lesion is the toxin elaborated by the bacillus. The paralysis may be divided into four groups: Those showing (1) purely muscular change; (2) polyneuritis; (3) lesions of the spinal cord with resulting muscular atrophy; (4) cerebral hemorrhage, due chiefly to circulatory change.

The paralyzes usually come on during convalescence.

In the severer forms the child becomes absolutely bedridden. To the paralysis of the extremities may be added paralysis of the heart and respiratory muscles. These cases are of course the most dangerous ones.

Of the local paralyzes the following are the more common, named in the order of frequency: palatal, ocular, cardiac and diaphragmatic.

The direct cause of cardiac failure is not myocardial change alone; organic changes of cardiac nerve structure are also present.

The author then gives the symptoms of these various types.

He believes that the general prognosis, except in the cardiac or diaphragmatic cases, is good.

With reference to treatment, he believes that antitoxin in large doses, early in the disease proper, is a prophylactic agent of great value.

Paralyzes are of course common after serum, but this is because some cases which would otherwise die recover, but owing to the intensity of the infection develop late paralyzes.

Of actual methods of treatment, Peter would lay most stress on absolute rest, both during the disease proper and later when the paralysis has appeared.

Of drugs, strychnia and iron are the most valuable, though the former is contraindicated in cases of cardiac involvement.

In respiratory paralysis, artificial respiration has been known to save life.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Genu Valgum, a Late Development; the Ogston Operation.—L. OMBREDANNE (*Revue de Orthopedie*, March, 1903).—Knock-knee is not a disease, but a symptom due to disturbances of nutrition, and may follow infections such as osteomyelitis, typhoid and various fevers, and quotes McEwen as saying that out of one hundred consecutive cases, forty-seven were due to an epidemic disease. While most cases develop in early youth, these cases are capable of becoming aggravated later on in life, even to a marked extent, and after a long period of quiescence, usually, however, as a concomitant of osteomyelitis. A case of a woman of forty-seven, who had universal joint disease at thirteen, with deviation at that time, which, however, after ten years, became quiescent, and remained so for thirty years, and then again gave trouble, with a great increase of deformity. This was relieved by an oblique osteotomy of the internal condyle, as practiced by Ogston, which when pushed up brings the leg well in line, and for cases of bad deformity is much more efficacious than McEwen's osteotomy above the condyles, but is fraught with more danger to the joint, which is opened by this procedure.

Bloodless Epiphyseolysis for Genu Valgum Adolescentium. — MAX REINER (*Zeitschrift fuer Orth. Chirurgie*, Band xi, Heft 2).—The author aims to slide the lower epiphyses inward and straighten the bone without much trauma, and so

as not to interfere with nutrition or subsequent growth. This is accomplished by fixing the lower end of the femur in a block, with its lower 1 cm. overhanging and by a regular not excessive pull to dislodge the epiphysis and straighten the bone. This method is claimed to be the simplest, easiest and most rational method of correcting the deformity. The separation is smooth and bloodless, and healing is excellent. The after-treatment is to confine the limb in plaster of paris for five to seven weeks. The apparatus is pictured, consisting of a well-padded block with a cross beam that catches the thigh firmly.

Old Irreducible Dislocations of the Shoulder-Joint.—A. F. JONAS (*Annals of Surgery*, May, 1903).—Seven cases show many of the difficulties encountered in the reduction of old dislocations of this joint. One case, of three months' standing, was reduced easily by Kocher's method without anesthesia. A fracture of the surgical neck followed manipulation in another case of four months' standing, and the head was left in its dislocated place, the author being content with a flail joint, which, however, was free from pain, where previously the pain had been intense. In another case, complicated by an impacted fracture of the head and also of the margin of the glenoid fossa, the head was sawed off and removed, while in a case of ununited fracture of the neck, with dislocation, the head had to be removed because it could not be made to stay in the glenoid fossa. The open operation had to be resorted to in six out of the seven cases. No typical operation could be performed in any of the cases.

Lipoma Arborescens.—C. F. PAINTER—WM. G. ERVING (*Boston Med. and Surg. Jour.*, March, 19, 1903).—Seven cases of this not uncommon disease are recorded, the condition being recognized pathologically, but surgically not receiving much attention. The knee-joint is most frequently affected. The condition of apparent tumor formation is nothing more than the end result of villous hypertrophy, but clinically is more important to recognize, as the removal of the growths relieves the symptoms. These growths are not necessarily due to tuberculous infection, not one of this series being tubercular, and consequently radical operations, which have been resorted to at times, are not indicated because one finds villous hypertrophy on opening the joints. Clinically these cases have more or less swollen joints, without any signs of acute inflammation, and usually without any excess of fluid. The function is imperfect either with or without pain and sometimes "locks" in a partially flexed position, and can only be straightened after considerable effort. The lipomata may vary in size, getting as large as a good-sized hen's egg, and consist of fat, with more or less fibrous tissue. All of the cases recovered satisfactorily after removing these growths through small incisions, and exploration is encouraged in knee-joints where any doubt exists as to the nature of the pathological process.

Congenital Dislocation of the Hip—Death Following Bloodless Reduction.—WILSON—PUGH—COPLIN (*American Medicine*, May 23, 1903).—The child, seven and one-half years old, was weak and anemic, and suffered with a double dislocation. The first side operated took twenty-five minutes, during which the pelvis was fractured (though not recognized), and the skin of the region about the hip split open in several places, but as the child's condition was good the second hip was attempted and manipulated for fifteen minutes without replacement. The anesthesia of an hour or more was followed by a good recovery, but several hours later became delirious and needed much stimulation, which revived it for a time, but it died before twenty-four hours had passed. Post-

mortem showed extensive hemorrhagic infiltration about the hip joints, and neither head of the bones being in the cotyloid cavities, but resting on the upper outer margin of the acetabulum, and the ligamentum teres on either side was so long and large that it filled the joint cavities completely. The autopsy further showed a perforate foramen ovale, atheromatous arteritis of aorta and coronaries, general tubercular lymphadenitis.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

A Further Contribution to the Dietetic Treatment of Epilepsy.—BALINT (*Neurolog. Centralbl.*, No. 8, 1903).—The salt-starvation method of treating epilepsy has had such varying results in the hands of different investigators, and so much controversy has arisen concerning its efficacy, that Balint, who was among the first to try it and whose original article, published in 1901, has been so often attacked, has felt constrained to experiment further in the matter and this paper is the result of his further observations. The original diet proposed by him consisted of 1000 grams of milk, 50 grams of butter, three eggs, fruit and 300 to 400 grams of bread in the preparation of which the NaCl was replaced by NaBr. In 80 per cent. of his cases the attacks were less frequent and in some of them disappeared entirely. This therapeutic result took place without regard to the severity of the epilepsy or whether the case was recent or an old one. In some cases with the return to the old diet the attacks appeared again with their former intensity. In this paper Balint attempts to answer the two following questions: 1. Whether it is possible to keep up this diet for a long period of time, and 2, whether toxic symptoms intervening would necessitate an interruption of the diet. In five cases of long-continued epilepsy, in which the attacks persisted in spite of large doses of bromide, the following results were obtained: In a case with a weekly average of eleven attacks, during nineteen weeks of treatment the attacks occurred twice weekly, with six weeks entirely free from them. In a case with ten to thirty attacks weekly, during twenty-seven weeks of treatment there were seventeen weeks free from attacks, and slight attacks of dizziness in the other ten weeks. In a third case, with one to nine attacks weekly, sixteen out of twenty-seven weeks of treatment were absolutely free from attacks. In a fourth case twenty-one weeks were free from attacks, and in a fifth case twenty-two out of twenty-seven were free from attacks. In all the cases cited above, during a six months' treatment, the number of attacks was reduced by 78 per cent. In addition to these cases, the author describes five others in which the treatment lasted from five months to one and one-half years. These are ambulatory cases, and after six or eight weeks of strict diet, are allowed to modify it, always, however, keeping the bread free from NaCl and the rest of the food likewise. All of these show the same remarkable reduction in the number and severity of the attacks. In respect to the amount of bromide given in the food, 3 grams was the average for adults, and $1\frac{1}{2}$ grams for children. The author concludes as follows: The diet, which consists of milk, butter, eggs, fruit and bread baked with NaBr, causes, according to almost all investigators, a decrease in the number and a lessening of the intensity of attacks. Such a diet can be used for as long a time as the patient can stand it and where the state of nutrition of the patient remains good. In those cases in which the diet cannot be used, other kinds of food, such as vegetables, cereals and meat, which are cooked without salt and with NaBr can be given. In order to vary as

much as possible the different kinds of food, the weight of the patient should be taken weekly as a measure of its efficiency. By a continuous use of this method slight or severe symptoms of bromism can result, which, however, can be lessened by a variation of the diet or by temporarily giving it up.

Pathology and Pathologic Anatomy of Toxic Polyneuritis Due to Sulfonal.—ERBSLOH (*Deutsch. Zeitschr. fuer Nerv. Heilkunde*, 3-4, 1903).—On account of the common use of sulfonal for insomnia any contribution to the untoward effects is of great interest. Wien in 1898 reported a case of sulfonal poisoning with neuritic symptoms resulting from the use of 22 grams of sulfonal for one and one-half months. Since then a number of cases have been reported. Erbsloh records a case of a woman, suffering from carcinoma, who took 150 grams of sulfonal in five days. Five days after the last dose symptoms of neuritis developed, first in the lower extremities, then ascending. The hands and feet remained unaffected longest. Death resulted from paralysis of the respiratory muscles. Microscopical examination showed evidence of toxic neuritis. The cells of the anterior horns and the anterior nerve roots were not affected.

The Diagnostic Value of the Plantar Reflex.—HARRIS (*Rev. of Neurol. and Psychiatrie*, May, 1903).—With the growth of clinical investigation there has come about a belief in the infallibility of the plantar reflex as an aid in differential diagnosis where the pyramidal tract is thought to be involved. This is held to be true except in the cases of infants where the Babinski reflex is to be regarded as normal. In this paper by Harris four cases are described, two of functional paralysis and two of hemiplegia, in which the Babinski reflex differed from the usual rule. These exceptions illustrate the fact that there is no such thing as absolutism in clinical medicine, and that the Babinski reflex, like the ankle clonus and the once infallible sign of meningitis, has its exceptions. In two cases of hemiplegia of organic origin, the typical flexor plantar reflex was obtained, and in both cases of functional paralysis a typical Babinski was present.

Veronal, a New Hypnotic.—A. LILLIENFELD (*Berliner Klin. Woch.*, No. 21, 1903).—This new hypnotic has aroused considerable interest. Veronal was discovered by Fischer and Von Mering. It is derived from certain uric acid preparations in combination with the ethyl group. It is a synthetically prepared compound, the hypnotic qualities of which were discovered by animal experiment. The chief advantages of veronal, as compared with other hypnotics of the same group, are the small effective dose, the absence of toxic after-effects, and its small cost. In most cases 0.5 gram. produces a seven to nine-hour apparently normal sleep. It is found effective in neurasthenia, hypochondria, hysteria, melancholia, and as a substitute in cases of morphine habit during the withdrawal period. The above report is based upon 450 doses in sixty cases of various nervous affections.

The Etiology of Tabes.—LEYDEN (*Berl. Klin. Woch.*, No. 20, 1903).—Leyden has so earnestly upheld the opinion that the origin of tabes is not syphilitic, and has so stubbornly resisted the trend of neurological opinion in this regard that some weight must be given to his point of view. Ever since the publication, some forty years ago, of his well-known monograph on the Grey Degeneration of the Posterior Columns, he has steadily held the opinion that the chief etiological factors were cold, trauma, exposure to dampness and wet. and exhaustion. In this last paper he shows no sign of changing his opinion. He brings forward several cases to illustrate his standpoint; they are as follows:

A 32-year-old merchant, in whom the first symptoms of tabes developed after a fall on the head. There was no luetic history. A 46-year-old clerk who had sustained several traumatic insults—the tabetic symptoms developed fully after a fracture of the leg. Three cases are described in which, with no history of lues, symptoms of tabes developed as a result of exposure to wet. Leyden calls attention also to the interesting observation of Kohnstam, according to which the fibres that have to do with sensations of cold and heat pass up the posterior columns, cross over to the Gowers column and can be followed to the *formatio reticularis grisea*. It is not improbable that a trauma, resulting from cold, affecting the peripheral nerves, can produce injuries analagous to a mechanical insult, and cause a degeneration in the posterior column neurona and spinal ganglions.

Contribution to the Study of the Achilles-Jerk and the Front-Tap.—WALTON and PAUL (*Jour. Nerv. and Ment. Dis.*, June, 1903).—Five hundred cases were examined for the presence of the Achilles-jerk; in only one case was the reflex found wanting in both legs, and on one side in four. The front-tap is obtained by tapping the *tibialis anticus*, with the foot flexed dorsally, the ankle resting on the knee of the examiner. The reflex consists in plantar flexion of the foot. In 500 cases the reflex was present in 37.5 per cent. of males, and in 41.3 per cent. of females. The conclusions reached by the authors are as follows: (1) The Achilles-jerk is practically as constant in health as the knee-jerk. This reflex varies less in health than the knee-jerk in excursion and activity, and is the most easily elicited and uniform of all tendon reflexes. (2) The Achilles-jerk disappears, as a rule, in tabes dorsalis, and its absence is as diagnostic of that disease as is loss of the knee-jerk. We have not seen a case far enough advanced to establish tabes with persistence of the Achilles-jerk, except one case in which both the knee-jerk and the Achilles-jerk were present on one side only. We have observed bilateral preservation of knee-jerk and loss of Achilles-jerk in two out of five cases of tabes. (3) Enfeeblement of knee-jerk in health on one side or both may be due to prior toxic influence, as diphtheria. This may also be true of the Achilles-jerk, though in the one case in which it could be demonstrated of the knee-jerk, the Achilles-jerk was normal. Further observation on this point is desirable. (4) The front-tap is present (generally on both sides) in about 40 per cent. of individuals in ordinary health; in some it is very active. It follows that its presence alone, even if active, does not establish disease, nor indicate excessive irritability of the nervous system. (5) In organic disease the front-tap is generally increased with the other reflexes in hypertonic, and decreased (generally wanting) in hypotonic states. (6) In the so-called functional disorders, hysteria, neurasthenia, and unclassified psychoses, we have found the front-tap present in 71 per cent. of cases. In epilepsy we have found it present in 75 per cent. of cases. The test may therefore here prove of aid in combination with other findings, though its mere presence or even activity is not of positive diagnostic value, nor does its absence negative the existence of neuropathic conditions. (7) Both these reflexes deserve to be placed upon the list of routine tests for purposes of diagnosis. This is particularly true of the Achilles reflex, which is of the greater positive diagnostic value.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Suppression of Urine, With Report of a Case Enduring Eight Days; Relieved by Decapsulation of the Kidneys.—WHITACRE (*J. Amer. Med. Asso.*, May 23, 1903).—After endeavoring to get the kidneys to secrete urine by resorting to various expedients, such as diuretics, diaphoretics, purgatives and saline infusions, and failing for eight days, the author did double decapsulation at one sitting. An incision into the capsules caused their edges to retract and the cortex to bulge through the incision as if under great tension. Complete capsulectomy was done. One hour after the operation the patient voided two ounces of intensely bloody urine. During the first twenty-four hours twenty-one ounces were passed. This increased in quantity as the days went by, and on the nineteenth day after the operation the patient passed eighty ounces, and was able to leave the hospital and go home, thus making a satisfactory recovery. The suppression came on after a uterine douche for infection following an abortion brought on by the patient by first taking ergot and then inserting a catheter into the womb, and was regarded by the author as due to vaso-motor disturbance, whereby a stasis of blood, probably under great tension, had occurred in both kidneys.

Some Points Pertaining to the Therapeutic Management of the Uræmic State.—STERN (*American Med.*, May 2, 1903).—Uremia is a complicated condition, and stands as a terminal for many causative factors. The serum of every variety of uremia possesses some distinctive feature. We have but to point to the fact that in the large white kidney the passage of the watery constituent of the blood is seriously interfered with; in contracted kidney there is nothing to prevent its flow. In the one there is a tendency to convulsions; in the other to a comatose state. The retention nitrogen, that is, that nitrogen remaining in the blood after complete removal of the albuminous substances, is 35 per cent. more in the blood serum of chronic parenchymatous nephritis than in normal blood, and in interstitial nephritis it is twice the amount found in chronic parenchymatous nephritis, the intermediate type containing more than the chronic parenchymatous and less than the interstitial. The enormous quantities of retention nitrogen in the serum of chronic interstitial nephritis undoubtedly stand in causative relationship to the natural termination of this disease—uremia. The inconsistency of pursuing the same plan of treatment throughout in cases of uremia, so unlike in their manifestations and arising from two (or more) so markedly discrepant substatas, is obvious. Sweating is indicated, and is of especial value soon after the onset of uremic phenomena, and its application has a greater salutary and more lasting effect in uremia having chronic parenchymatous nephritis as its foundation. Abstraction of blood is mostly of a transitory value, but serves a good purpose in many instances of uremia, especially in acute nephritic conditions, and more may be expected of it in the chronic parenchymatous than in the interstitial nephritis. Subcutaneous or intravenous introduction of a weak solution of sodium chloride produces diuresis, and compensates for the amount of blood lost by venesection. Its effect is more or less transitory. The solution should be .6 per cent (hypotonic). Small doses of morphine are of value in controlling uremic convulsions.

Uræmia and Its Treatment.—THOMSON (*Med. Rec.*, May 16, 1903).—According to Rose Bradford, if you remove two-thirds of both kidneys in dogs, the animals will live quite well, and actually pass more urine and more urea than they did

before the operation; but if you remove three-fourths, they are sure to die after a while, apparently because of excessive polyuria and excessive excretion of urea by the remaining fourth, the muscular tissues seeming to break down rapidly and decompose into the elements which go to form urea.

It would seem from this that in the case of the kidneys a small part is greater than the whole. The polyuria may find its explanation in the fact that in health much of the water that passes through the glomeruli is reabsorbed by Henle's tubes. The only theory advanced for the rapid breaking down of the proteid tissues throughout the body when so much of the kidney has been removed, is that of an internal secretion, which, in normal kidneys, controls and prevents undue waste of the nitrogenous tissues.

The sudden stoppage of the urinary flow, as by obstructive interference of the ureters, does not produce the symptoms of uremia which we are familiar with, but is followed by increasing weakness, with twitchings, the subject dying of pure asthenia. And so, in uremia there are a variety of poisons, some of which it may be possible to recognize by their own special properties. One of these special poisons seems to possess properties similar to an internal secretion in adjoining glands, the suprarenal capsules, and, like adrenalin, acts as a very powerful vasoconstrictor. Thus the author mentions a case in which the usual methods for controlling uremia failed, but tr. aconite in five-drop doses, every three hours, relieved the symptoms, although the heart originally was so weak that it was dangerous to raise the patient's head. The aconite evidently counteracted this uremic poison, relieved the vasoconstriction, and thus relieved the heart by diminishing its work. The kidneys are unusually liberally supplied with vasoconstrictors and vasodilators, showing a wide range in size under their influence. Suprarenal extract injected intravenously produces a most extraordinary shrinkage of the kidney. Aconite, the ideal vasodilator, relieves this condition best.

The author ascribes the arteriocapillary sclerosis of long-standing kidney disease to high tension first, rather than high tension to the sclerosis. Aconite, therefore, is indicated in those cases where the pulse remains both tense and frequent, but we cannot expect much from it when a wide-spread chronic endarteritis has already caused extensive obliteration of the smaller arteries. In puerperal eclampsia venesection or veratrum viride in large doses are indicated to relieve the urgency, aconite being too slow in its action.

Purely functional renal inadequacy, or at least inadequacy of the elimination of urea, not due to organic kidney disease, is very common, and is generally dependent upon gastro-intestinal derangements. In acute nephritis, of which scarlatinal nephritis is the representative type, the most certain of all diuretics in conditions threatening suppression is the rectal douche of normal saline solution at 115° F., hypodermoclysis also being of service. In those cases of Bright's disease which are suddenly taken with uremic convulsions as the first warning to the patient that the disease is present, the added element which brings about the attack is often septic invasion of the kidney, usually with the colon bacillus. Here a mercurial purge, followed every two or three hours by 10 gr. urotropin and 10 Gr. sod. benzoate, together with the hot saline rectal irrigation, act well.

The greatest remedy for auto-infection, and the best prophylactic against the manifold dangers of chronic intestinal nephritis, is life in the open air. That the systemic poisons in chronic parenchymatous nephritis and interstitial nephritis are quite different in kind is evident upon observing two advanced cases side by side. In the large white kidney the glomeruli are pressed upon by masses of round cells, which fairly stuff Bowman's capsules, and the tubules are choked by every kind of debris. Unlike the lung, which has a double blood supply, the single blood supply of the kidney will not furnish sufficient absorptive power to remove these impediments. It is in cases like these that Edebohl's decapsulation, by furnishing additional blood connection, is of service.

A Case of Dropsy, the Result of Inflammation of the Kidneys, Treated by Laparotomy.—PLANER (*The Lancet*, London, April 25, 1903).—The patient, aged thirty-one and one-half years, was very anæmic, and had almost a bilious complexion; the liver was enlarged, and the spleen and kidneys enlarged and sensitive to touch. The urine was very albuminous, the body enormously swollen and in a state of advanced ascites. A long abdominal incision was made, the fluid evacuated, a strip of peritoneum on each side of the wound exsected, and the wound closed. The patient made a good recovery, is free from dropsy, and is in good health, without albumen in the urine. The abdominal organs have returned to their normal condition. Before coming to the author, this case had been tapped at another hospital and dismissed as incurable, with the prognosis of her speedy decease.

Modifications of Technique of Epidural Injections.—CATHELIN (*Ann. des Mal. des Org. Genito-Urin.*, April 15, 1903).—The author's article, "Epidural Injections by Puncture of the Sacral Canal and Their Applications in Diseases of the Urinary Passages," has been translated into German by Strauss, and numerous physicians have experimented successfully with his method in France, but from a point of view purely analgesic. The author, with Albarran, was the first to utilize it in urology, especially in infantile incontinence of urine. Strauss has made several modifications in the technique of these injections, and particularly has made improvements in the needle, the syringe, and the composition of the injected solution. The solution giving the best results is:

R Chloride of soda.....	0.2
Hydrochlorate of cocaine.....	0.01
Sterilized distilled water.....	100.0
Carb. water, 5 per cent.....	gtt. ij

Observations published after the author's by different writers have confirmed his first results, and have called attention to successes in some cases where other medical means have completely failed.

Indications for Massage of the Prostate.—GUEPIN (*Centralblatt f. d. K. d. Harn und Sex. Org.*, April 25, 1903).—In general, digital expression is always indicated if there is present an infected or stagnant secretion in the glands of the prostate and seminal vesicles. If there is hypersecretion with stagnation, without manifest infection, the glands must be emptied.

In acute localized or generalized prostatitis, massage of the prostate and seminal vesicles prevents a collection of pus in the glands and that remnant of inflammation which is usually overlooked and which is the beginning of a chronic prostatitis. Massage is indicated in subacute prostatitis, chronic prostatitis, tuberculosis of the prostate and senile prostatitis up to the second stage. However, massage is only indicated if the examining finger detects dilated glands which feel like small cysts or hard seeds, and which, if pressed upon by the finger, leaves a depression when emptied. Prostatic massage requires a specially trained finger, as much damage may be done by its unskillful use.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Case of Verrucæ Planæ Juveniles.—CHALMERS WATSON, M. D. (*Brit. Jour. of Dermatology*, May, 1903).—The interest in this case is the fact that the verrucæ disappeared under the influence of castor oil in doses sufficient to cause free evacuations of the bowels.

The patient was a boy of thirteen years. Scattered over his face, hands and legs were numerous small elevations, size of pin-head to a pea. They were of firm consistency and of a delicate pink or faintly yellow color. The size and appearance of the lesions varied from day to day. A tablespoonful of castor oil was given twice a week for the first week, and then once a week subsequently.

The disappearance of the lesions under an aperient suggests to the author that a chronic infection from the alimentary canal is an important etiological factor in these cases, and at the same time may afford an explanation of the variations in size and appearance just referred to.

In this connection it is of interest to note that the two classes of medical remedies that are recommended by most authorities for the treatment of verrucæ planæ are (a) magnesia, in small, oft-repeated doses sufficient to produce an aperient action (Crocker), and (b) the internal administration of arsenic, a remedy which has been proved to possess a stimulatory action on bone marrow (Stockman).

It is conceivable that the manner of action of these two classes of substances is substantially the same, the aperient getting rid of a focus of septic absorption, and thus enabling the forces of nature—*e. g.*, the bone marrow—to reassert themselves; the arsenic inducing a greater functional activity of the bone marrow, which, there is good reason to believe, is the most important means of natural defense in the organism.

Lupus Erythematosus: Some Illustrative Cases.—WILFRID B. WARDS, M. D. (*Brit. Jour. Dermatology*, May, 1903).—After citing numerous cases illustrative of his views, the author concludes by again affirming that lupus erythematosus is not a disease, but merely a stage in the course of many different affections—a step in the pathological ladder by which a damaged part, unable to achieve its own repair, is destroyed and replaced by fibrous tissue. In a certain class of individuals the repair is indefinitely prolonged, till it may appear to be altogether postponed, and then the condition becomes known as lupus erythematosus.

Secondary Eruptions in Small-Pox.—JAY F. SCHAMBERG, M. D. (*Jour. Cutaneous Diseases*, May, 1903).—In a certain proportion of cases the true small-pox eruption is preceded by a vast morbilliform, scarlatiniform or purpuric in character, which are due, no doubt, to the variolous poison. But there are other eruptions not so well known which commonly occur during the course of variola. It is to this latter class that the author wishes to call attention.

Impetigo Variolosa: During the period of desiccation and incrustation in small-pox, certain secondary changes commonly occur upon the skin; one of these is the development of sparsely distributed blebs containing a thin, dirty, yellow fluid, which may originate in several distinct ways, by appearing upon previously healthy inter-pustular areas of skin, or the pustule may be directly converted into the bleb. At times a pustule is seen one-half yellowish while the other half spreads out into a muddy-colored bleb. The blebs are commonly

flat, although at times they rise prominently from the surface and vary in size from a bean to a walnut; the epidermic roof being placid, wrinkled and thin, ruptures easily, emitting a thin yellowish fluid which dries in the form of an irregular crust. This form is most frequently seen on the hands and feet.

A more common change in the pustule is the development around the partially desiccated crust of a reddish vesicular ring, containing a turbid secretion; just beyond the border of the raised-up epidermis is a narrow pinkish band which indicates the spreading edge. These bullæ spread peripherally and central crusting proceeds concurrently with centrifugal extension. In this manner large, dirty yellow, friable crusts are formed and it is not uncommon for most of the pustules on the trunk and extremities to be complicated by this secondary eruption. Nearly all patients with unmodified small-pox present these "sores" upon the skin. Where this eruption is profuse, evidences of septicemia may occur and even death may be caused. Dr. Schamberg has found the normal pox pustule sterile. About the eighth or ninth day secondary infection occurs, when the impetigo variolosa begins. Smears and cultures at this period show various micro-organisms, staphylococci, streptococci, also pseudo-diphtheria bacilli. Cutaneous gangrene in the course of small-pox is usually preceded by impetigo variolosa.

The statement appears to be justified that impetigo variolosa increases the liability to deeper pyogenic infections, boils, abscesses, erysipelas; it moreover appears to bear a relationship to the development of certain post-variolous rashes.

Secondary Toxic or Septic Rash: This rash occurs during the stage of de-crustation, between the sixth and twentieth day, by the development upon the trunk, extremities or face of an erythematous eruption, consisting of a diffuse, dusky, punctated redness similar to that of scarlet fever, or at times it may be morbilliform.

Secondary rashes are not infrequently accompanied by rise of temperature. The scarlatiniform is the type most commonly seen. The post-variolous rashes are in all probability septic or toxic, due to the absorption of some poison into the blood.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Employment of Light as a Therapeutic Agent in the Treatment of Chronic Pharyngitis.—STREBEL (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 1).—After having studied the action of light on the skin, as employed by Fin- sen, the author employed it in diseased conditions of the pharynx, with the result that catarrhal swellings were absorbed and a return to the normal of the mucous membrane was soon brought about.

The light was employed by means of the author's specially constructed lamp, in which the sun's rays are concentrated by a series of lenses, and then cooled by running water. With this lamp the author is able to apply the rays to a comparatively small area. It was found that the action of the rays is increased when pressure is made on the part to be exposed.

The value of the cold rays lies in the fact that they do not cauterize, produce no reaction, no scars, and bring about the desired results in a comparatively short time.

The Prognosis of Chronic Otorrhea.—RIEK (*Maryland Medical Journal*, April, 1903).—The object of the author's paper is to point out the fact that, with

proper care and thorough treatment, the cure of chronic suppurative otitis media is nothing like so hopeless a matter as regarded by many physicians. He states that by thorough cleansing of the auditory canal and tympanic cavity, through the use of antiseptic irrigations, or by the so-called dry method, employed frequently enough to keep the tympanum clean, a cure will result in more than 50 per cent of all the cases. With the aid of stronger antiseptic solutions and caustics this percentage of cures can be materially increased.

Less than half of the cases require surgical treatment either of minor or major degree. Among the former are removal of polyps and granulation tissue from the tympanum to facilitate the beneficial effects of the medicinal remedies. When a case resists the above measures the diseased process has reached some inaccessible part of the ear, hence calls for major surgical treatment. Fifty per cent of these cases can be cured by removing the ossicles with the remains of the drum. When this fails the so-called radical operation will have to be performed, which gives from 80 to 90 per cent of cures.

The author believes that as the technique of the radical operation becomes more perfect the remaining 2 to 5 per cent of uncured cases will be materially decreased.

A New Method of Treating Suppurating Catarrh of the Middle Ear.—GRAY (*Lancet*, April 18, 1903).—The remarkable penetrating power of aniline oil has been known for some time. Recently the author has been experimenting with a saturated solution of iodoform in aniline oil, in the treatment of chronic suppurative otitis media, and reports excellent results. There are certain limitations to its application, as aniline is toxic. Gray has discovered that anything under four minims may be absorbed without producing any symptoms of poisoning in an adult, and that if more than this amount is used cyanosis may occur. Fortunately more than four or five minims are never required in ear work. Another objection is the peculiar effect upon the skin produced in some patients, an erythematous blush appearing, accompanied with slight swelling and itchiness.

The writer's conclusions are: (1) The solution should be measured before use; (2) the ear should be cleansed and dried with the same care as is required in the present methods of treatment; (3) granulations should be removed, though this is not so imperative as it is in other methods of treatment; (4) the applications should be made by the surgeon himself; (5) the use of the solution is particularly indicated in those cases which do not do well when treated in the usual ways—that is, in foul-smelling and presumably tuberculous cases.

The Relation of Ozena to Tuberculosis of the Lungs.—ALEXANDER (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 1).—In order to determine the relation of ozena to tuberculosis of the lungs, the author examined two hundred phthisical patients. Among that number he found only one typical case of ozena, fifteen with a marked degree of atrophy of the nasal mucous membrane and six which he regarded as "clinically cured" cases of ozena. Physical examinations of fifty cases of ozena were also made, with the result that twenty-two showed unmistakable evidences of pulmonary tuberculosis, while seven were regarded as suspicious. In none was the diagnosis made on the microscopic examination of the sputum, as the acid-proof bacilli described by Mueller were found in seven cases out of ten in which bacteriological examinations of the sputum were made.

From these findings the author concludes that ozena undoubtedly predisposes to tuberculosis of the lungs, and for that reason it should not be regarded as a benign affection.

The Importance of Nasal Respiration in Diseased Conditions of the Pharynx and Larynx.—TRAUTMANN (*Muenchner Medicinische Wochenschrift*, No. 13, 1903) reports a case in which the operative restoration of the nasal respiration was followed by a spontaneous cure of an inflammatory condition of the larynx and pharynx, which had resisted all other treatment during a period of three years. The author believes that many cases of chronic laryngitis and pharyngitis that have resisted all treatment can be treated successfully if proper attention be directed to the nose. He also warns against the destruction of the mucous membrane of the nose, and points out that while the free nasal respiration may be established the natural protective properties may be destroyed and the nose rendered as defenseless as the passages below.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Influence of Sea-Air and Bathing on Certain Ocular Affections.—R. JOGQS (*La Clin. Ophthalm.*, April 25, 1903).—As is well known, a sojourn at the sea-side is usually of immense benefit to strumous children suffering from kerato-conjunctivitis. According to Jogqs, other affections favorably influenced are interstitial keratitis due to various dyscrasiæ other than syphilis, inflammation of the uveal tract and insidious plastic iritis and serous iritis. The latter, when occurring in women, is often connected with irregularities of menstruation or may arise from toxines originating from utero-ovarian disease. In such cases especially are good results to be expected from a short stay at the sea-shore.

Fatal Hemorrhage from the Conjunctiva in the Newborn, with Report of a Case.—M. WIENER (*St. Louis Med. Review*, April 25, 1903).—In a careful search of the literature the writer has been able to find but two cases (besides his own) of "spontaneous fatal hemorrhage from the conjunctiva, with death due directly to the hemorrhage."

The writer's case was that of an apparently healthy baby delivered of a mother with labial chancroids and a purulent discharge containing gonococci. Immediately after birth two drops of a two per cent. solution of silver nitrate were dropped into each eye. One hour later blood began to ooze from the eyes, the hemorrhage coming from the surface of the conjunctiva which was moderately hyperemic. The hemorrhage proved refractory to treatment and with temporary remissions continued until the baby's death at the age of six days.

Ocular Complications in Scarlatina.—STRZEMINSKI (*Rec. d'Ophthalmol.*, March, 1903).—Ocular complications in scarlatina develop in the later stages of the disease or after recovery, and are rare. In an epidemic occurring in Wilna in 1902-03, Strzeminski observed two cases of corneal ulcer, three of phlyctenular kerato-conjunctivitis, one of paralysis of accommodation and of the sphincter pupillæ and one of diphtheritic membrane of the conjunctiva. Other complications noted by various authors include orbital phlegmon, abscess of the lachrymal gland and sack, embolism of the central artery of the retina, inflammation and atrophy of the optic nerve following scarlatinal meningitis, paralysis of both facial nerves and ulcers of both corneæ, accompanying a bilateral scarlatinal otitis.

The Treatment of Trachoma by X-rays.—(*Trans. Oph. Soc. of the United Kingdom*, March 13, 1903; *reported in Ophth. Review*, May, 1903).—Mr. Stephen Mayou exhibited a patient with trachoma of five years' standing, who had been under varied treatment. Both lids presented large flat granules and cicatrices. There was pannus of both corneæ. After fourteen exposures, each of five minutes' duration, the granules disappeared and the pannus had begun to clear. Rapid improvement, painlessness and freedom from complication are advantages claimed for this treatment. The current should be of high frequency and should be applied directly to the conjunctiva.

Spasmodic Retraction of the Upper Lids.—CHEVALLEREAU and CHAILLOUS (*Ann. d'oculist.*, April, 1903).—This paper is based on two cases observed by the authors.

CASE 1.—Female, aged forty-two, presented herself with both upper lids strongly retracted, so that a strip of sclera was visible above each upper limbus corneæ when the eyes were in the primary position. The palpebral skin was rolled forward so as to form a transverse cushion partly hiding the lashes. On looking down the upper lids remained motionless, so that a large scleral area came into view above each cornea. There was no abnormality of skin or mucosa.

Ocular movements were normal. In attempted closure of the lids the orbicularis contracted slowly and with difficulty, the lid margins approaching each other little by little. Complete closure was practically unattainable.

In sleep and chloroform narcosis the conditions described were unchanged. The trouble began six months previously accompanied by loss of flesh, general muscular weakness and dyspnea on exertion. The sign of Stelwag—increased size of the palpebral fissure and inability completely to close the eyes—was present, and the writer suggests that retraction of the lids may have been the initial symptom in an anomalous case of Basedow's disease.

CASE 2.—Male, aged forty-six, had a retraction of the left upper lid which had existed from birth. With the eye in the primary position the orbital portion of the lid overhangs the bulbar portion which is drawn backward and upward so as to expose a strip of sclera 2 mm. to 3 mm. wide between the upper margin of the cornea and the lid margin. On looking down the lid unfolds, but does not follow the downward excursion of the globe (symptom of v. Graefe). There is also an incomplete closure of the lids on the left side.

Two Cases of Indirect Gunshot Injury of the Eye.—M. T. YARR (*Ophthalm. Review*, November, 1902).—The first case was shot in the face, the bullet entering half an inch below the external palpebral angle of the left eye and emerging below and half an inch in front of the external palpebral angle of the right eye. The orbit was not penetrated. Ophthalmoscopically, the right eye was normal; the left eye presented below the disc a white woolly area with radiating processes, one of which passed across the macular region. There were two large and numerous smaller hemorrhages and a good deal of pigment disturbance in the surrounding retina. Vision in the left eye was nil.

The second case was struck on the left eyebrow by a Lee-Medford cartridge, which had accidentally fallen into a camp fire and exploded. Examination nine months later showed: R. eye, normal v. 6-6; L. eye, slight ptosis, v. 6-36; field contracted above. Ophthalmoscopically, slight pigment disturbance at the macula and several small, ill-defined choroidal patches near the disc.

The writer believes that "concussions or vibrations are transmitted through the tissues to the eyeball, where, sparing the sclerotic, they produce gross changes in the more delicate choroid and retina."

BOOK REVIEWS.

TUBERCULOSIS. By NORMAN BRIDGE, A. M., M. D. 12 mo, pp. 302, illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The substance of the lectures on Medical Tuberculosis, delivered by the author in Rush Medical College during the past three years, is embodied in this book, which has both the merits and the faults inherent in its mode of preparation. As regards the former, its style is pleasant and easily readable, smelling not at all of the lamp. On the other hand, the treatment of the subject is far from complete, and especially in its pathologic and bacteriologic portion the book is marked by many statements which, to say the least, still await verification. Thus, on page 11, the writer having quoted the view held by some that the shorter and thicker tubercle bacilli, which stain better than the longer, slenderer ones, seem to be the product of the severer cases, adds: "If this be true, it would argue that these [the former] forms are fewer generations removed from their origin in bovine bacilli."

The most valuable portion of the book is to be found in the chapters dealing with the practical treatment and management of those afflicted by tuberculosis, and with the protection of the community from the spread of this disease. Any book contributing to the spread of correct information on these topics deserves a warm welcome.

INTERNATIONAL CLINICS. A QUARTERLY. Edited by A. O. J. KELLY, A. M., M. D. Volume 1. Thirteenth Series. Philadelphia: J. B. Lippincott Co. 1903.

A new volume of the International Clinics is ever welcome, and this volume is not inferior to its predecessors. It opens with a valuable article by Dr. William Osler on aneurism of the descending aorta, in which are embodied some extremely interesting cases. In a discussion of the treatment of chronic urethritis, by Dr. Ernst Finger, the writer warns against ever assuming the permanent absence of gonococci, even after numerous examinations made *lege artis* have failed to reveal their presence. No case of chronic urethritis can with certainty be pronounced cured. Among the articles of particular interest may be mentioned one on primary intestinal tuberculosis, by Dr. Frank Billings, and one on gastric dilatation and its accompanying lesions, by Dr. Max Einhorn. The volume closes with an adequate review of the progress of medicine during the year 1902.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROF. DR. CARL VON NOORDEN. Translated under the direction of Boardman Reed, M. D. Part 1. Obesity. New York: E. B. Treat & Co. 1903.

For many years Prof. von Noorden, with his assistants and pupils, has been chiefly occupied in the study of the disorders of metabolism and nutrition. The result of this work has been a large number of articles published in various journals and systems of medicine. These various publications are now being collected to form a connected whole. Three volumes, on obesity, nephritis and colitis, have already appeared in German, and others on the treatment of diabetes, the significance of acetone in diabetes, the technique of reduction cures on forced feeding, are now in course of publication. The importance of von Noorden's work well warrants the translation of these monographs, and the profession is to be congratulated that an American firm has been found willing to undertake this work.

DIE PHYSIKALISCH-DIAETETISCHE THERAPIE IN DER AERZTLICHEN PRAXIS. By BERNHARD PRESCH, M. D. Lieferung vi. Wuerzburg: A. Stuber's Verlag (C. Kabitzsch). 1903. G. E. Stechert, New York, Agent.

This number concludes Dr. Presch's handy little work. It contains in particular a concise but adequate discussion of the physical and dietetic therapy of tuberculosis and typhoid fever, and under the rubric "vitium cordis" of heart disease. An appendix contains a full discussion of the technique of hydrotherapy, massage, gymnastics and the like, of electrotherapy and a briefer account of some dietetic "cures." A good index closes the volume.

THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS. By E. L. KEYES and E. L. KEYES, JR. A Revision of Van Buren and Keyes' Text-Book, with 174 illustrations in the text and ten plates, eight of which are colored. New York and London: D. Appleton & Co. 1903.

To one who is familiar with the old Van Buren and Keyes, and later the Keyes' work on genito-urinary diseases, the present revision is extremely pleasing. The gradual evolution of this book gives a graphical picture of the advance of genito-urinary surgery. The volume deals with the surgical diseases and rather puts in the background venereal diseases. Indeed, the wonderful strides that have recently been made in the surgical part of this specialty has created the need of just such a book.

The clear and concise text of the older works have been preserved, and yet eight hundred and twenty-seven pages are required to give the necessary descriptions.

Syphilis has been entirely eliminated. A better book on the subject cannot be found.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. Edited by FRED PETERSON and WALTER S. HAINES. Vol. I. Philadelphia: W. B. Saunders & Co. 1903.

The volume brings in separate chapters, written by different well-known authors, a wealth of material on all sides of the legal relations of medicine. The single portions of the work are not all of equal value or thoroughness, and in some very problematic questions rather too apodictic assertions are made. Excellent is the treatise of Hektoen on the medico-legal post-mortem examination, the chapters on signs of death and sudden death by Ewing. Very important are Peterson's stigmata of degeneration, while the article on sexual perversions, by Chaddock, is a standard of that way of dealing with this subject, which only instructs and not nauseates. The book will meet with a warm welcome.

DISEASES OF THE BRONCHI AND PLEURA; PNEUMONIA. By DR. F. A. HOFFMANN, of Leipsic; DR. O. ROSENBACH, of Berlin, and DR. F. AUFRECHT, of Magdeburg. Edited, with additions, by JOHN H. MUSSER, M. D. Octavo volume of 1030 pages. Cloth, \$5.00 net; half morocco, \$6.00 net. W. B. Saunders & Company.

This is the fourth volume of Saunders' American edition of Nothnagel's Practice. To those who are acquainted with the German edition no recommendation is necessary; to those unacquainted with the original, the names of the authors of the three monographs comprising the edition are sufficient recommendation. Additions have been made to the volume by the American editors which render the work all the more valuable. These additions include new work on the anat-

omy and physiology of the bronchi, foreign bodies, the pathology and bacteriology of bronchitis, fibrinous bronchitis, bronchiectasis, eosinophilia in asthma, etc., the blood and urine in pneumonia. The writer of the chapters on inflammations of the lungs upholds the view that pneumonia is the expression of a general pneumococcus infection, and that the local pulmonary lesion is not a necessary part of the infectious process, and that the danger from the lesion is not as great as the danger from the toxemia.

SURGICAL ANATOMY: A TREATISE ON HUMAN ANATOMY IN ITS APPLICATION TO THE PRACTICE OF MEDICINE AND SURGERY. By JOHN B. DEEVER, Surgeon-in-Chief to the German Hospital, Philadelphia. In three volumes. Illustrated with 499 plates, nearly drawn for this work from original dissections. Vol. III. Abdomen: Pelvic cavity: Lymphatics of the abdomen and pelvis: Thorax: Lower extremity. Philadelphia: P. Blakiston's Son & Co., 112 Walnut street. 1903.

This splendid volume of 816 pages completes the largest, handsomest and best work in the English language on this subject. It seems almost absurd to go into a review of the work as a whole, since it is already so well known and popular, hence this article will be confined to a discussion of the volume now before us. To show how the conception of the work has grown since its inception, it is but necessary to state that volume III contains 178 magnificent full-page illustrations (wash drawings), whereas it was intended in the beginning that all three volumes together should contain but 200 illustrations. Too much cannot be said of the quality of these plates; not one of them is mediocre in point of interest or poorly done.

The appearance of the book is something quite unusual, it being bound in red half morocco and printed upon the finest heavy paper. In addition to the many plates which depict organs and regions, there are a large number which deal with surgical landmarks, the direction of important vessels and nerves, to say nothing of those which depict the ligations and other operations. The author has not contented himself with illustrating a single organ but once, where there may be a variation in type, as in the kidney pelvis, he shows by several plates just what this variation may consist in.

The surgical as well as medical aspects of the work may be well understood from referring to the chapter on the lungs. After the usual anatomical descriptions there come sub-chapters on the various affections of the organ, among them there being considered hernia, hypostatic congestion, pneumonia, phthisis, infarction, emphysema and asthma.

While the price of the whole work at first may seem high, still it would be difficult for the general practitioner to invest the same amount of money in any other way that would furnish him with so much useful information; while for the surgeon, this addition to our science is indispensable.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROFESSOR CARL VON NOORDEN. E. B. Treat & Co., N. Y.

Part I.—On the treatment of acute nephritis and chronic atrophic kidney.
Part II.—Membranous catarrh of the intestines (colica mucosa).

These monographs are two of a series which is being given out from the laboratory of Professor von Noorden. His investigations along the lines here touched upon are too well known to need comment. The subjects are concisely though thoroughly dealt with, summing up in a few pages the excellent work done by the author during the past years.

FINDLEY'S GYNECOLOGICAL DIAGNOSIS. The Diagnosis of Diseases of Women. A Treatise for Students and Practitioners. By PALMER FINDLEY, M. D., Instructor in Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago. In one octavo volume of 494 pages, richly illustrated with 210 engravings and 45 full-page plates in colors and monochrome. Cloth, \$4.50, net; leather, \$5.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The English language has hitherto lacked any work paralleling several publications of which German practitioners have had the advantage, that is a book devoted to gynecological diagnosis. In the present work this long-felt need is completely supplied. The volume embodies all the most modern as well as the long established methods of arriving at a diagnosis. The subject is handled in 36 chapters, which are divided into two parts, the one being devoted to the general, the other to the special diagnosis of diseases peculiar to women.

This is a book of exceptional merits, and while we are certain that it will soon be a favorite among American students and practitioners, we do not doubt that it will meet with the same success in the critical eyes of the English gynecologists.

PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D. Volume IV. *Gynecology*. Edited by E. C. Dudley, A. M., M. D., and William Healy, A. B., M. D. March, 1903. Volume V. *Obstetrics*. Edited by Reuben Peterson, A. B., M. D. April, 1903. Price: \$1.25 each.

This series is published primarily for the general practitioner. A set of ten volumes, issued at monthly intervals, covers the entire field of medicine and surgery. The two volumes before us give a short and clear survey of the literature of the past year on gynecological and obstetrical topics. The care with which only the best articles were selected by the respective editors is evident. There is no doubt that these two latest volumes will help to further popularize this already favorably known publication.

OBSTETRICS. A Text-book for the Use of Students and Practitioners. By J. WHITRIDGE WILLIAMS, Professor of Obstetrics, Johns Hopkins University; Obstetrician in Chief to Johns Hopkins Hospital, etc., etc. With 8 colored plates and 630 illustrations in the text. New York and London: D. Appleton & Co. 1903.

This book marks a distinct departure from the heretofore applied mode of teaching obstetrics to the American student. Any one in a superficial way familiar with the great number of text-books on obstetrics now on the market, may shrug his shoulders when confronted with the reviewer's statement, that this new text-book of Williams is supplying a need felt by a great number of obstetricians of this country. Somewhere, we could not state just where, Joseph Price complained that here in America we show so little interest in scientific obstetrics. We have always felt that this complaint was justified and that the want of this interest was due to the fact that almost all of the American text-books treated obstetrics only from the practical point of view, a position well in accord with the general trend of this country. In Williams' book "especial attention has been devoted to the normal and pathological histology of the generative tract." His book is distinguished as being highly scientific and at the same time practical; it will be perused with the same advantage and interest by the student, the general practitioner, the obstetrician and the scientist. It is not only the best written, but certainly the best illustrated text-book on obstetrics in the English language, and the publishers deserve due credit for the splendid make up of this volume.

ATLAS UND GRUNDRISSE DER ALLGEMEINEN PATHOLOGISCHEN HISTOLOGIE. By HERMANN DUERCK: Lehmann's Handadlanten-Muenchen. 1902.

Like in the other volumes of this collection, nothing but praise can be found for the beautiful and correct rendition of well-selected pathologic specimens. The necessity for the wealth of these pictures is not apparent, but they are all and every one of them artistically perfect and true. And as such they may be received with thanks. The text is short and concise; in several places (hemorrhage, for instance) it does not altogether do justice to the subject, but as a whole it gives a correct and up-to-date review of general pathologic histology.

HYPERCHLORHYDRIA: A SYMPOSIUM. The June issue of the "International Medical Magazine" will be devoted to a symposium on this most important gastric subject, than which none more important has ever been published in an American journal. More than half a dozen of the leading European specialists will contribute, among whom are: Prof. C. A. Ewald, of Berlin; Prof. George Hayem, of Paris; Prof. Carl von Noorden, of Frankford; Dr. L. Kuttner, of Berlin; Prof. Rosenheim, of Berlin.

The selection of contributors from this side of the Atlantic has been equally happy, and the following will take part: Prof. John C. Hemmeter, of Philadelphia, on "An Experimental and Clinical Study of the Etiology of Hyperchlorhydria;" Dr. Allen A. Jones, of Buffalo, on "The Effervescence Test of Gastric Acidity;" Dr. Boardman Reed, of Philadelphia, on "A Further Development of the Benedict Effervescent Test of Gastric Acidity;" Dr. John A. Lichty, of Pittsburg, on "The Relation Between Hyperchlorhydria and Neurasthenia;" Prof. Fenton B. Turek, of Chicago, on "The Treatment of Hyperchlorhydria;" Dr. A. Robin, of Newark, Delaware, on "The Etiology of Hyperchlorhydria;" Dr. Max Einhorn and others.

INTERSTATE MEDICAL JOURNAL

PUBLISHED ON THE FIFTEENTH DAY OF EVERY MONTH BY THE
INTERSTATE MEDICAL JOURNAL COMPANY

SUBSCRIPTION, \$2.00.

FOREIGN SUBSCRIPTION, \$2.50.

SINGLE COPY, 25c.

Subscriptions may begin at any time. Volumes end with issues of December.

Original Articles.—Articles are accepted for publication with the understanding that they are contributed solely to this journal. French and German articles will be received and translated free of charge, if found desirable for publication.

Reprints (200) of original articles will be furnished gratis to authors making the request, which must accompany the manuscript. Covers to these, and extra reprints, will be furnished at net cost.

Illustrations, such as plates, half-tones and zinc etchings, as in the judgment of the editors are necessary to illustrate articles, will be furnished when photographs or drawings are supplied by the author.

Rejected Manuscripts will be returned, if stamps be sent for this purpose.

Advertisements.—Advertising forms go to press on the 5th of the month, the JOURNAL being mailed on the 15th. Time should be allowed for composition of advertisements and

for the sending and return of proofs. Advertising rates will be sent on application.

Change of Address.—In ordering a change of address, it is important that both the old and new addresses be given.

Discontinuances.—The INTERSTATE MEDICAL JOURNAL is not discontinued at expiration of subscription, but is sent until an explicit order to stop is received or a notice sent by us. A large majority of our subscribers prefer not to have subscriptions interrupted and files broken in case they fail to remit before expiration. It is therefore assumed, unless notice to discontinue is received and the amount of back subscription paid to date, that the subscriber wishes no interruption in his series. Journals returned are not notice of discontinuance.

Remittances should be made by check, draft, registered letter, money or express order. Address all communications to INTERSTATE MEDICAL JOURNAL, Linmar Building, St. Louis, Mo.